November 14, 2017

California State Lands Representative
Richard B. Greenwood
Statewide Geophysical Coordinator
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331

Subject: Proposed Geophysical Survey Activities near Encinitas, CA

Mr. Greenwood:

In accordance with California State Lands Commission (CSLC) permit PRC 9404, this letter includes the pre-survey notification information for planned hydrographic survey activities offshore of Encinitas, CA in support of the San Elijo Lagoon Restoration Project (SELRP). A description of the survey activities is provided below, with additional information included in the following attachments:

- Attachment A: Pre-survey Notification Requirements (Permit Exhibit G)
- Attachment B: Pre-survey Notification Form (Permit Exhibit F)
- Attachment C: Authorization from California Department of Fish and Wildlife
- Attachment D: U.S. Coast Guard Local Notice to Mariners
- Attachment E: Harbor Master / Dive Shop Notifications
- Attachment F: Sonar Equipment Manufacturer's Specifications and Verification of Equipment Service
- Attachment G: Marine Wildlife Contingency Plan
- Attachment H: Oil Spill Contingency Plan

Overview

The planned survey activities include multibeam and side scan sonar data collection within the nearshore region shown in Figure 1. The purpose of the survey is to:

- Determine the capacity of two borrow pits previously excavated as part of SANDAG's Regional Beach Sand Projects I and II (RBSP I and II); and
- Identify areas of hard-bottom along candidate pipeline approaches from the borrow pits to shore.

Bathymetric soundings will be obtained within the two borrow sites and along the candidate pipeline routes using a multibeam sonar system. Along the candidate pipeline routes, a side scan sonar system also will be utilized to obtain a photo-like representation of the seafloor suitable for identifying areas of hard bottom.

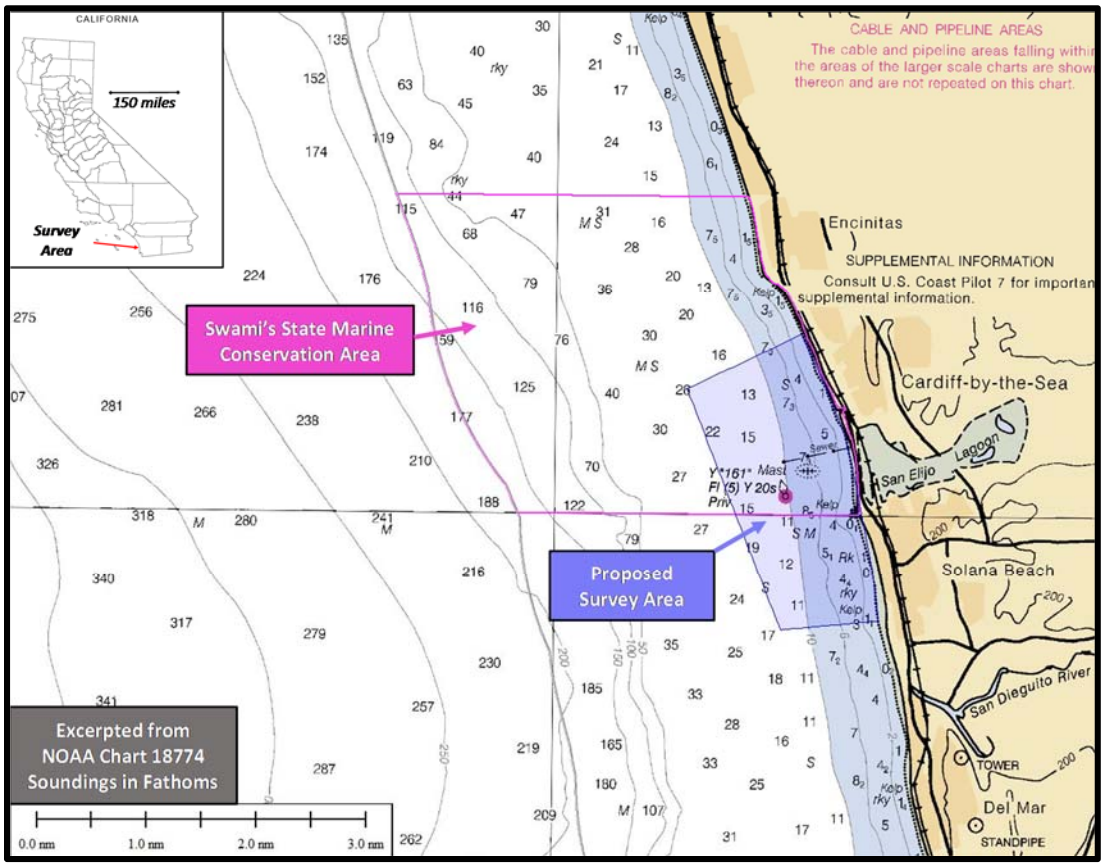


Figure 1. Location Map

Survey data will be obtained along track lines with a nominal spacing between 20 and 100 ft. While the precise locations of the planned lines are not defined at this time, coordinates of the proposed survey area bounds are provided in Table 1.

Table 1. Coordinates of Proposed Survey Area

Location	Latitude		Longitude	
	[deg]	[min]	[deg]	[min]
Northwest Corner	33	1.1374	117	18.5691
Northeast Corner	33	1.6402	117	17.3357
Southeast Corner	32	59.0374	117	16.4769
Southwest Corner	32	58.9489	117	17.5336

Horizontal Datum = NAD83

Activities within Swami's State Marine Conservation Area

As illustrated in Figure 1, portions of the survey area lie within Swami's State Marine Conservation Area. Approval to conduct the proposed activities was obtained from Robert Win at the California Department of Fish and Wildlife on November 13, 2017. A copy of the approval is provided in Attachment C. Prior to conducting the survey, Coastal Frontiers is required to notify Mr. Win of the planned survey date.

Schedule

Pending approval from CSLC, the survey activities are planned to occur sometime in December 2017. It is anticipated that the work will require up to 4 days to complete. Survey operations will only be conducted during daylight hours. Should weather or other delays impact the schedule, the work could be conducted as late as January 31, 2018.

Notices

The following agencies have been notified of the planned activities:

- U.S. Coast Guard, Local Notice to Mariners
- Oceanside Harbor Master
- North County Scuba

Copies of the notifications are provided in Attachments D and E.

Survey Vessel

Survey activities will be conducted from the 34-ft aluminum catamaran *R/V Chinook*, operated by Zephyr Marine (Photo 1). The vessel is fitted with twin 250 HP Honda gas-powered outboard engines (exempt from California Air Resources Board Tier 2 Certified Engine Requirement). During data collection, the survey vessel speed will range between 3-6 kts. The vessel captain will be Ryan Braget. The vessel will be launched from Oceanside Harbor.

Sonar Equipment

The sonar equipment to be used as part of the survey is delineated in Table 2. The primary components consist of a Reson 7125 multibeam echosounder and Edgetech 4125 Side Scan Sonar System. The multibeam echosounder will be fixed on an over-the-side mount, with the bottom of the transducer located approximately 2-3 ft below the waterline. The side scan unit will be towed from either the bow or the stern of the vessel, depending on the sea state at the time of the survey. The length of the tow cable will range between approximately 10 and 30 ft.

As is shown in Table 2, all sonar equipment will be operated at frequencies greater than or equal to 200 kHz. Manufacturer's specification sheets and recent service records for both systems are provided in Attachment F.

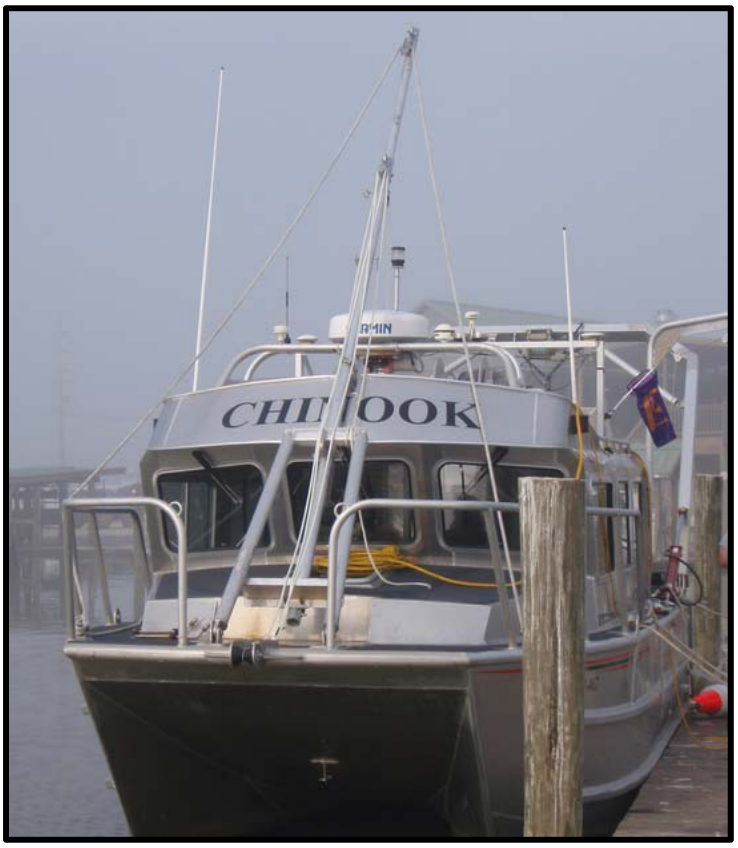


Photo 1. R/V Chinook

Table 2. Sonar Systems

Unit	Reson 7125	Edgetech 4125
Data Type	Multibeam Bathymetry	Side Scan Sonar
Frequency	200 / 400 kHz	400 / 900 kHz
Source Level (dB re 1 µPa at 1 m)	220 dB	205 dB
Number of beams	up to 512	2
Across Track Beamwidth	142° / 145°	±50°
Along Track Beamwidth	2.2° / 1.1°	0.46° / 0.33°
Pulse Rate	up to 50Hz	9.4 Hz / 15 Hz
Pulse Length	33-330 µsec	3.2 ms / 2.0 ms
Rise Time	n/a	< 0.1 ms
Estimated Distance to isopleth:	-	-
190 dB (re 1 µPa (rms))	24 m	5.6 m
180 dB (re 1 µPa (rms))	53 m	17.8 m
160 dB (re 1 µPa (rms))	155 m	177.8 m

Marine Wildlife Contingency Plan

A Marine Wildlife Contingency Plan is provided in Attachment G. As specified in the plan, a Marine Wildlife Monitor (MWM) will be stationed on the vessel during data collection activities and during transit to and from the survey area. The MWM will have the authority to stop or re-direct vessel and survey operations when necessary to avoid wildlife disturbances. As noted previously, all survey equipment will be operated at frequencies greater than or equal to 200 kHz; therefore, only one MWM is required. The MWM will be provided by Frank Orth and Associates. Resumes for MWMs that may participate in the project are included in Attachment G.

It is important to note that survey data will not be obtained in areas encumbered with kelp, or in water depths shallower than approximately 10 ft (MLLW). The Coastal Frontiers crew members, MWM and vessel captain shall be responsible for monitoring the area for kelp to ensure that the vessel and side scan towfish do not enter areas with dense kelp.

No known pinniped haul out sites are located within 300 m of the survey location. The nearest pinniped haul-out site is at Children's Cove in La Jolla, CA (approximately 8.5 nm south of the survey location).

Oil Spill Contingency Plan

An Oil Spill Contingency Plan is provided in Attachment H.

We sincerely appreciate your assistance with approval of the proposed survey activities. Please do not hesitate to contact us if you have any questions or require additional information.

Sincerely,
Coastal Frontiers Corporation

Christopher Scott, P.E

Enclosures:

Attachment A: Pre-survey Notification Requirements (Permit Exhibit G)
Attachment B: Pre-survey Notification Form (Permit Exhibit F)
Attachment C: Authorization from California Department of Fish and Wildlife
Attachment D: U.S. Coast Guard Local Notice to Mariners

Attachment E:	Harbormaster / Dive Shop Notifications
Attachment F:	Sonar Equipment Manufacturers Specifications and Verification of Equipment Service
Attachment G:	Marine Wildlife Contingency Plan
Attachment H:	Oil Spill Contingency Plan

ATTACHMENT A

PRE-SURVEY NOTIFICATION REQUIREMENTS
(Permit Exhibit G)

EXHIBIT G

California State Lands Commission Presurvey Notice Requirements for Permittees to Conduct Geophysical Survey Activities

All parts of the Presurvey Notice must be adequately filled out and submitted to the CSLC staff a minimum of twenty-one (21) calendar days prior to the proposed survey date to ensure adequate review and approval time for CSLC staff. Note that one or more of the items may require the Permittee to plan well in advance in order to obtain the necessary documentation prior to the Notice due date (e.g., permits from other State or Federal entities).

Please use the boxes below to verify that all the required documents are included in the Presurvey Notice. If "No" is checked for any item, please provide an explanation in the space provided. If additional space is needed, please attach separate pages.

Yes	No	
☑	☐	Geophysical Survey Permit Exhibit F
☑	☐	Survey Location (including a full-sized navigation chart and GPS coordinates for each proposed track line and turning point) Explanation: Precise track lines have not yet been defined. Coordinates of survey area bounds are provided.
☑	☐	Permit(s) or Authorization from other Federal or State agencies (if applicable) Explanation: Authorization from California Department of Fish and Wildlife attached
☑	☐	21-Day Written Notice of Survey Operations to Statewide Geophysical Coordinator/
☑	☐	U.S. Coast Guard Local Notice to Mariners/
☑	☐	Harbormaster and Dive Shop Notifications Explanation: _____
☑	☐	Marine Wildlife Contingency Plan Explanation: _____
☑	☐	Oil Spill Contingency Plan Explanation: _____
☑	☐	Verification of California Air Resources Board's Tier 2-Certified Engine Requirement Explanation: Gasoline Engines Exempt. Activities in San Diego County.
☑	☐	Verification of Equipment Service and/or Maintenance (must verify sound output) Explanation: _____
☑	☐	Permit(s) or Authorization from California Department of Fish and Wildlife for surveys in or affecting Marine Protected Area(s) (if applicable) Explanation: Activities within Swami's State Marine Conservation Area. Approval from CDFW included.

NOTE: CSLC staff will also require verification that current biological information was obtained and transmitted as outlined in Section 5 of this permit.

ATTACHMENT B

PRE-SURVEY NOTIFICATION FORM
(Permit Exhibit F)

EXHIBIT F

PRESURVEY NOTIFICATION FORM

Applicant/Permittee's Mailing Address

Coastal Frontiers Corporation
882A Patriot Drive
Moorpark, CA 93021

Date: November 14, 2017

Jurisdiction: Federal ____ State x Both ____

If State: Permit #PRC 9404

Region: I

Area: Encinitas, CA to Solana Beach, CA

GEOPHYSICAL SURVEY PERMIT

Check one: x New survey ____ Time extension of a previous survey

Coastal Frontiers Corp. (Applicant/Permittee) will conduct a geophysical survey offshore California in the survey area outlined on the accompanying navigation chart segment. If you foresee potential interference with commercial fishing or other activities, please contact the person(s) listed below:

FEDERAL WATERS (outside 3 nautical miles)

1) Applicant's representative
2) Federal representative (e.g., Bureau of Ocean Energy Management [BOEM] or National Science Foundation [NSF])

NOTE: Any comments regarding potential conflicts in Federal waters must be received by the Applicant's Representative and lead Federal agency within ten (10) days of the receipt of this notice.

STATE WATERS (Inside 3 nautical miles)

1) Permittee's representative
2) CSLC representative

NOTE: Any comments regarding potential conflicts in State waters should be received as soon as possible by the Permittee's representative, no more than fifteen (15) days after the receipt of this notice.

1. Expected Date of Operation December 5, 2017 - January 31, 2018 (4 survey days within given window)
2. Hours of Operation Daylight Hours (~0600 - 1800)
3. Vessel Name R/V Chinook
4. Vessel Official Number AK 8018 AG
5. Vessel Radio Call Sign N/A
6. Vessel Captain's Name Ryan Braget
7. Vessel will monitor Radio Channel(s) VHF 16
8. Vessel Navigation System Differential GPS

9. Equipment to be used Reson 7125 Multibeam Echosounder (MBES) , EdgeTech 4125 Side-Scan Sonar (SSS)

   a. Frequency (Hz, kHz) MBES= 200/400 kHz; SSS = 400/900 kHz

   b. Source level (dB re 1 μPa at 1 meter (m) [root mean square (rms)]) MBES = 220 dB, SSS = 205 dB

   c. Number of beams, across track beamwidth, and along track beamwidth
   MBES = 512 beams (142 x 2.2 deg); SSS = 2 beams (+/-50 x 0.46 deg)

   d. Pulse rate and length MBES = up to 50Hz with length 33-300 microsec ; SSS = up to 15 Hz with length 2.0 microsec

   e. Rise time MBES = N/A, SSS = < 0.1 ms

   f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 μPa (rms) isopleths
   MBES: 190 dB = 24 m, 180 dB = 53 m, 160 dB = 155 m ; SSS: 190 dB = 5.6 m, 180 dB = 17.8 m, 160 dB = 177.8 m

   g. Deployment depth MBES = 2 - 3 ft ; SSS = up to 20 ft

   h. Tow speed 3 - 6 knots

   i. Approximate length of cable tow MBES = N/A (Mounted to Vessel) ; SSS = up to 30 ft

Applicant's Representative:
Christopher Scott
Coastal Frontiers Corporation
882A Patriot Drive
Moorpark, CA 93021
818-341-8133

California State Lands Representative
Richard B. Greenwood
Statewide Geophysical Coordinator
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331
(562) 590-5201

BOEM Representative
Joan Barminski
Regional Supervisor
Office of Strategic Resources
770 Paseo Camarillo
Camarillo, CA 93010
(805) 389-7585

Other Federal Representative (if not BOEM):

ATTACHMENT C

AUTHORIZATION FROM CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

COASTAL FRONTIERS

Christopher Scott <cscott@coastalfrontiers.com>

Fwd: San Elijo Lagoon Project (GeoPhysical Survey Notice)

Win, Robert@Wildlife <Robert.Win@wildlife.ca.gov> Mon, Nov 13, 2017 at 12:52 PM
To: Christopher Scott <cscott@coastalfrontiers.com>
Cc: Greg Hearon <ghearon@coastalfrontiers.com>, Brady Richmond <brichmond@coastalfrontiers.com>, "Adams, Loni@Wildlife" <Loni.Adams@wildlife.ca.gov>

Hi Chris

Thanks for the email, looking at the information you sent through, there should be no need to obtain a SCP, especially since it is only a once off project and should not have any impact to Swami's SMCA.

I would although request notification to the Department of when activities are likely to occur.

Detailing:

Contact Details- (name, contact number and email)

Vessel Name-

Survey date/time-

Feel free email these to me directly and I will then forward to our law enforcement.

Regards

Rob

Robert Win

Environmental Scientist

Statewide Marine Protected Areas Management Project/Scientific Collecting Permits

Marine Region

(562)342-7177

From: Christopher Scott [mailto:cscott@coastalfrontiers.com]
Sent: Monday, November 13, 2017 12:01 PM
To: Win, Robert@Wildlife <Robert.Win@Wildlife.ca.gov>
Cc: Greg Hearon <ghearon@coastalfrontiers.com>; Brady Richmond <brichmond@coastalfrontiers.com>
Subject: Fwd: San Elijo Lagoon Project (GeoPhysical Survey Notice)

Hi Robert,

It was great talking with you this morning. As we discussed, the multibeam and side-scan survey described in the letter provided previously is a one-time survey in support of the San Elijo Lagoon Restoration Project (SELRP). No other multibeam/side-scan surveys are currently planned in support of the project. Once we have a survey date in mind, I will send you a notification via email that you can pass along to your wardens in the area. Thanks again for all your help,

Christopher Scott, P.E.

Coastal Frontiers Corporation

882A Patriot Drive

Moorpark, CA 93021

818-341-8133

www.coastalfrontiers.com

---------- Forwarded message ----------
From: **Christopher Scott** <cscott@coastalfrontiers.com>
Date: Thu, Nov 9, 2017 at 10:42 AM
Subject: Re: San Elijo Lagoon Project (GeoPhysical Survey Notice)
To: loni.adams@wildlife.ca.gov
Cc: Brady Richmond <brichmond@coastalfrontiers.com>, Richard.Greenwood@slc.ca.gov, Robert.Win@wildlife.ca.gov, Greg Hearon <ghearon@coastalfrontiers.com>

Hi Loni,

As requested, I have attached a letter summarizing the proposed survey activities near Encinitas, CA. The letter includes a description of the survey location, vessel, and sonar equipment to be used. Specification sheets for the sonar equipment and Oil Spill and Marine Wildlife Contingency Plans are provided as attachments. Pending approval from CDFW, we will submit a similar letter to CSLC as part of our pre-survey notifications. Please let me know if you have any questions or need any additional information.

Thank you for your assistance,

Christopher Scott, P.E.

Coastal Frontiers Corporation

882A Patriot Drive

Moorpark, CA 93021

818-341-8133

www.coastalfrontiers.com

On Wed, Nov 8, 2017 at 12:54 PM, Christopher Scott <cscott@coastalfrontiers.com> wrote:

> Hi Loni,
>
> My colleague, Brady Richmond, forwarded me your email requesting additional information regarding our planned hydrographic survey activities near Encinitas, CA. This morning, I spoke with Simona Altman at CDFW regarding the work and she mentioned that she would be passing our information along to the Marine Region. I will prepare a brief

letter describing the work and forward it to you shortly. In the interim, please feel free to contact me directly with any questions or concerns you may have.

Thank you,

Christopher Scott, P.E.

Coastal Frontiers Corporation

882A Patriot Drive

Moorpark, CA 93021

818-341-8133

www.coastalfrontiers.com

On Wed, Nov 8, 2017 at 12:15 PM, Brady Richmond <brichmond@coastalfrontiers.com> wrote:

FYI

---------- Forwarded message ----------
From: "Adams, Loni@Wildlife" <Loni.Adams@wildlife.ca.gov>
Date: Nov 8, 2017 11:48 AM
Subject: San Elijo Lagoon Project (GeoPhysical Survey Notice)
To: "brichmond@coastalfrontiers.com" <brichmond@coastalfrontiers.com>
Cc: "Greenwood, Richard@SLC" <Richard.Greenwood@slc.ca.gov>, "Win, Robert@Wildlife" <Robert.Win@wildlife.ca.gov>

Dear Mr. Brichmond:

Thank you for contacting the Department regarding the impending geophysical survey proposal. The Department of Fish and Wildlife (Department) Marine Region is reviewing your email requesting our approval for your geophysical survey. I will be taking the lead on this marine related proposal as I am in the Marine Region. The Department requests more information such as a plan describing the type of equipment you will be using and any biological monitoring and mitigation plans. Depending on the type of equipment, you may be required to obtain a scientific collecting permit. Specifically, will you be using any type of equipment that is towed underwater?

I look forward to reviewing the additional information documents.

Sincerely,

Loni Adams

Marine Environmental Scientist

California Department of Fish and Wildlife

Marine Region

3883 Ruffin Rd.

San Diego, CA 92123

858-627-3985 office

858-627-3984 Marine FAX

loni.adams@wildlife.ca.gov

November 9, 2017

Loni Adams
Marine Environmental Scientist
California Department of Fish and Wildlife
Marine Region
3883 Ruffin Rd.
San Diego, CA 92123

Subject: Request for Approval, Geophysical Survey Activities near Encinitas, CA

Ms. Adams:

Coastal Frontiers has been contracted to conduct a hydrographic survey offshore of Encinitas, CA in support of the San Elijo Lagoon Restoration Project (SELRP). A portion of the proposed survey area lies within Swami's State Marine Conservation Area. As a result, we are seeking California Department of Fish and Wildlife (CDFW) approval for the proposed activities prior to submitting a pre-survey notification to the California State Lands Commission (CSLC) under permit PRC 9404.

This letter summarizes the proposed survey activities, including the survey location, vessel, and sonar equipment to be used. Specification sheets for the sonar equipment are provided in Attachment A. Oil Spill and Marine Wildlife Contingency Plans are included in Attachments B and C, respectively.

Proposed Survey Activities

The proposed survey activities include multibeam and side scan sonar data collection within the nearshore region shown in Figure 1. As is shown in the figure, a portion of the survey area lies within the Swami's State Marine Conservation Area. The purpose of the survey is to:

- Determine the capacity of two borrow pits previously excavated as part of SANDAG's Regional Beach Sand Projects I and II (RBSP I and II); and
- Identify areas of hard-bottom along candidate pipeline approaches from the borrow pits to shore.

Bathymetric soundings will be obtained within the two borrow sites and along the candidate pipeline routes using a multibeam sonar system. Along the candidate pipeline routes, a side scan sonar system also will be utilized to obtain a photo-like representation of the seafloor suitable for identifying areas of hard bottom. Details regarding the multibeam and side scan sonar systems are provided in the sections that follow.

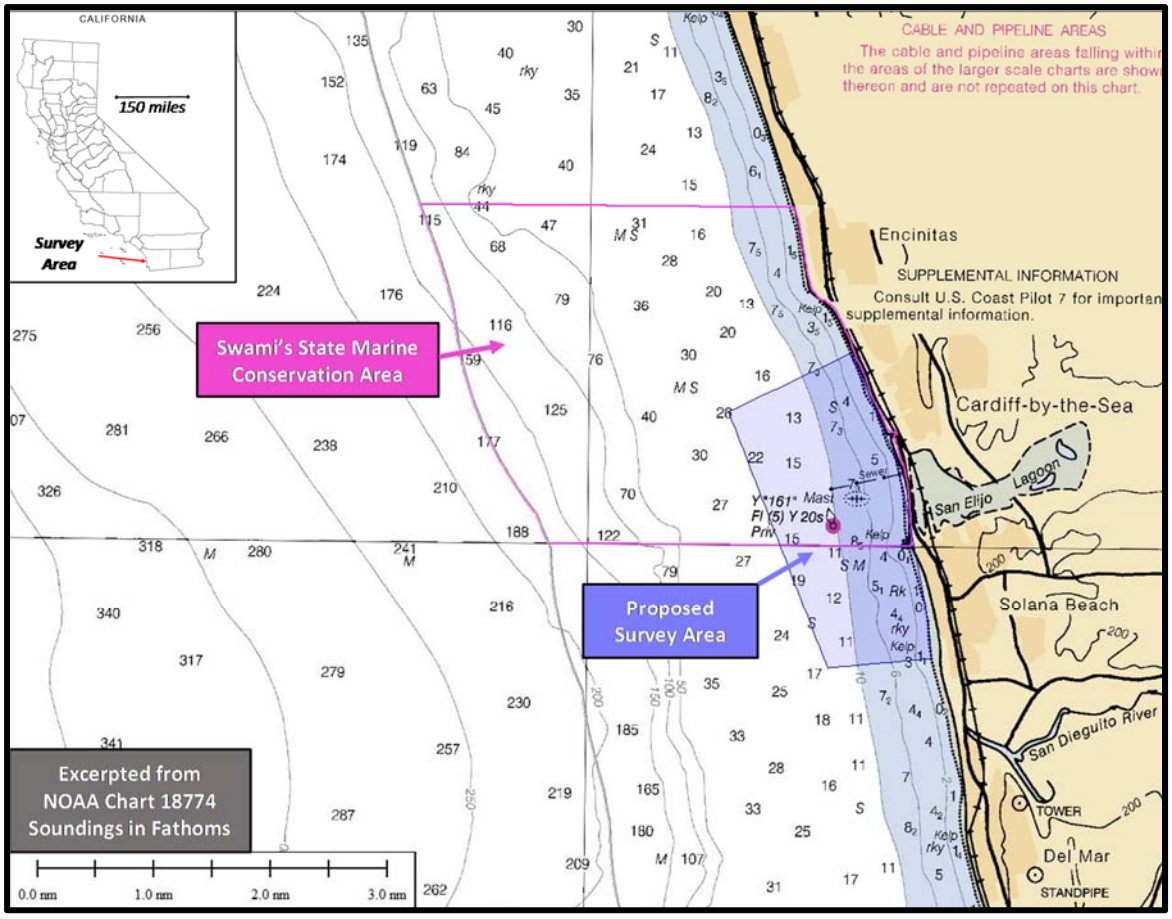


Figure 1. Location Map including Proposed Survey Area and Swami's State Marine Conservation Area

Survey data will be obtained along track lines with a nominal spacing between 20 and 100 ft. While the precise locations of the planned lines are not defined at this time, coordinates of the proposed survey area bounds are provided in Table 1. It is important to note that survey data will not be obtained in areas encumbered with kelp, or in water depths shallower than approximately 15 ft (MLLW).

Schedule

Pending approval from CDFW and CSLC, the survey activities are planned to occur sometime in December 2017. It is important to note that CSLC requires CDFW approval at least 21 days prior to conducting the planned survey activities. Survey operations will only be conducted during daylight hours.

Table 1. Coordinates of Proposed Survey Area

Location	Latitude		Longitude	
	[deg]	[min]	[deg]	[min]
Northwest Corner	33	1.1374	117	18.5691
Northeast Corner	33	1.6402	117	17.3357
Southeast Corner	32	59.0374	117	16.4769
Southwest Corner	32	58.9489	117	17.5336

Horizontal Datum = NAD83

Survey Vessel

Survey activities will be conducted from the 34-ft aluminum catamaran *R/V Chinook*, operated by Zephyr Marine (Photo 1). The vessel is fitted with twin 250 HP Honda gas-powered outboard engines. During data collection, the survey vessel speed will range between 3-6 kts.

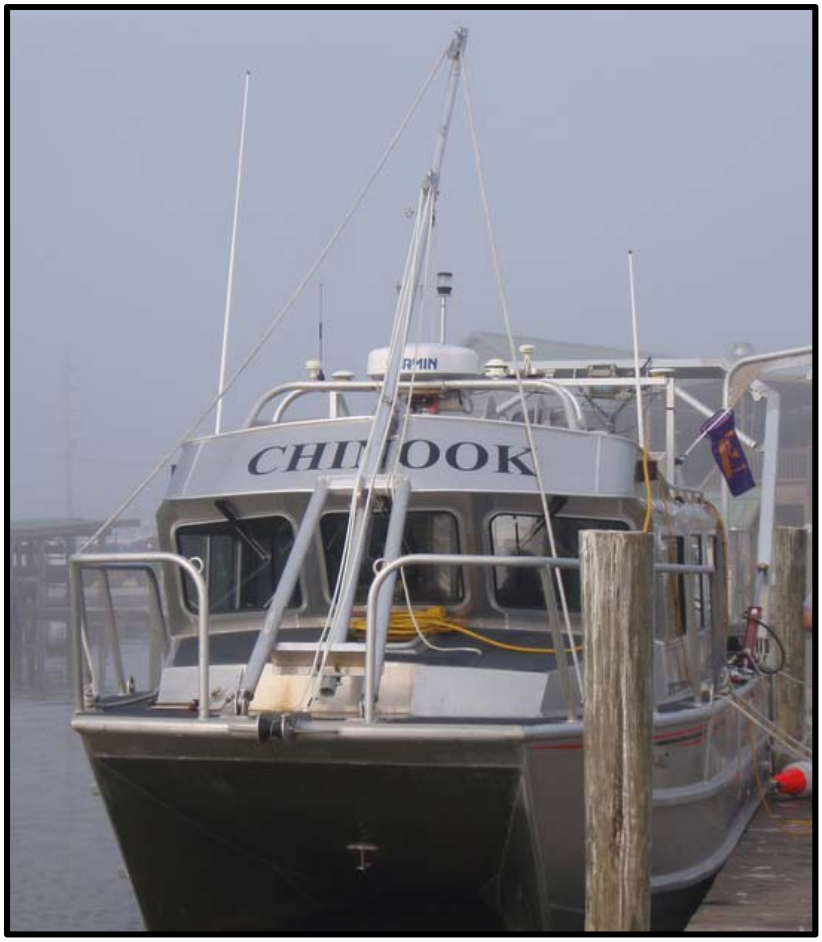


Photo 1. R/V Chinook

Sonar Equipment

The sonar equipment to be used as part of the survey is delineated in Table 2. The primary components consist of a Reson 7125 multibeam echosounder and Edgetech 4125 Side Scan Sonar System. The multibeam echosounder will be fixed on an over-the-side mount, with the bottom of the transducer located approximately 2-3 ft below the waterline. The side scan unit will be towed from either the bow or the stern of the vessel, depending on the sea state at the time of the survey. The length of the tow cable will range between approximately 10 and 30 ft.

As is shown in Table 2, all sonar equipment will be operated at frequencies greater than or equal to 200 kHz. The manufacturer's specification sheets for both the multibeam and side scan systems are provided in Attachment A.

Table 2. Sonar Systems

Unit	Reson 7125	Edgetech 4125
Data Type	Multibeam Bathymetry	Side Scan Sonar
Frequency	200 / 400 kHz	400 / 900 kHz
Source Level (dB re 1 µPa at 1 m)	220 dB	205 dB
Number of beams	up to 512	2
Across Track Beamwidth	142° / 145°	±50°
Along Track Beamwidth	2.2° / 1.1°	0.46° / 0.33°
Pulse Rate	up to 50Hz	9.4 Hz / 15 Hz
Pulse Length	33-330 µsec	3.2 ms / 2.0 ms
Rise Time	n/a	< 0.1 ms
Estimated Distance to isopleth:	-	-
190 dB (re 1 µPa (rms))	24 m	5.6 m
180 dB (re 1 µPa (rms))	53 m	17.8 m
160 dB (re 1 µPa (rms))	155 m	177.8 m

Oil Spill Contingency Plan

An Oil Spill Contingency Plan is provided in Attachment B.

Marine Wildlife Contingency Plan

A Marine Wildlife Contingency Plan is provided in Attachment C. As specified in the plan, a Marine Wildlife Monitor (MWM) will be stationed on the vessel during data collection activities and during transit to and from the survey area. The MWM will have

the authority to stop or re-direct vessel and survey operations when necessary to avoid wildlife disturbances. As noted previously, all survey equipment will be operated at frequencies greater than or equal to 200 kHz; therefore, only one MWM is required. Resumes for MWM that may participate in the project are included in Appendix C.

It is important to note that survey data will not be obtained in areas encumbered with kelp, or in water depths shallower than approximately 10 ft (MLLW). The Coastal Frontiers crew members, MWM and vessel captain shall be responsible for monitoring the area for kelp to ensure that the vessel and side scan towfish do not enter areas with dense kelp.

We sincerely appreciate your assistance with approval of the proposed survey activities. Please do not hesitate to contact us if you have any questions or require additional information.

Sincerely,
Coastal Frontiers Corporation

Christopher Scott, P.E

Enclosures:

Attachment A – Sonar Specification Sheets
Attachment B – Oil Spill Contingency Plan
Attachment C – Marine Wildlife Contingency Plan

ATTACHMENT D

U.S. COAST GUARD LOCAL NOTICE TO MARINERS

COASTAL FRONTIERS

Christopher Scott <cscott@coastalfrontiers.com>

Request for Local Notice to Mariners - Hydrographic Survey

Christopher Scott <cscott@coastalfrontiers.com> Mon, Nov 13, 2017 at 5:26 PM
To: D11LNM@uscg.mil
Cc: Greg Hearon <ghearon@coastalfrontiers.com>, Brady Richmond <brichmond@coastalfrontiers.com>

We are requesting the following local notice to mariners be published in support of hydrographic survey activities near Encinitas, CA. Additional details are provided in the attached PDF.

SOUTHERN CALIFORNIA - ENCINITAS - HYDROGRAPHIC SURVEY
Coastal Frontiers Corporation will be conducting hydrographic survey operations (multibeam and side scan) during a 4-day period between December 5, 2017 and January 31, 2018 in the vicinity of Encinitas, CA (NOAA Chart 18774). The work will be conducted from the *R/V Chinook* monitoring VHF CH 16. A side scan sonar unit will be towed up to 30 ft from the stern of the vessel. Mariners are advised to use caution when transiting the area. For further comments or details contact Christopher Scott at (818) 341-8133.

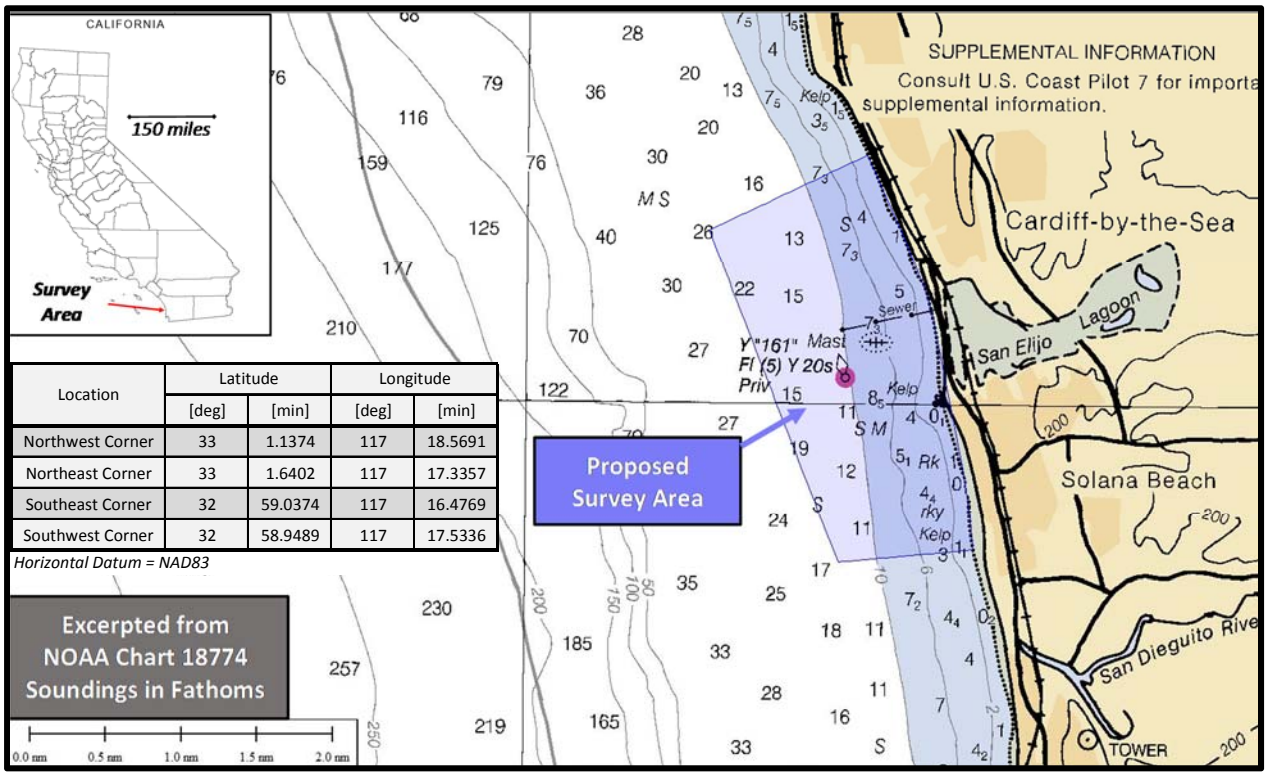
Thank you,
Christopher Scott, P.E.
Coastal Frontiers Corporation
882A Patriot Drive
Moorpark, CA 93021
818-341-8133
www.coastalfrontiers.com

Notification of Hydrographic Survey Activities.pdf
329K

Notification of Hydrographic Survey Activities

Coastal Frontiers Corporation will be conducting hydrographic survey activities offshore of San Elijo Lagoon near Encinitas, CA as part of the San Elijo Lagoon Restoration Project (SELRP). The planned survey activities include multibeam and side scan sonar data collection within the nearshore region shown in Figure 1. Details regarding the work are provided below. Please contact the Coastal Frontiers Representative with any questions or concerns.

Point of Contact	Coastal Frontiers Corporation Christopher Scott 882A Patriot Drive Moorpark, CA 93021 (818) 341-8133 (office) (805) 791-1961 (cell)
Sonar Equipment	Multibeam Sonar (hull-mounted) Side Scan Sonar (towed, length of tether up to 30 ft)
Location	Nearshore region (up to 100 ft water depth) near San Elijo Lagoon in Encinitas, CA. NOAA Chart 18774 (see figure and inset table below)
Planned Date of Operation	4-days between December 5, 2017 and January 31, 2018. Daylight operations only.
Survey Vessel	R/V Chinook (AK 8018 AG) 34-ft Aluminum Catamaran Operator: Zephyr Marine, Ryan Braget
Radio Channel	VHF 16



Location	Latitude		Longitude	
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Northwest Corner	33	1.1374	117	18.5691
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Southeast Corner	32	59.0374	117	16.4769
Southwest Corner	32	58.9489	117	17.5336

Figure 1. Location Map

ATTACHMENT E

HARBOR MASTER AND DIVE SHOP NOTIFICATIONS

COASTAL FRONTIERS

Christopher Scott <cscott@coastalfrontiers.com>

Notification of Hydrographic Survey Activities - Encinitas, CA

Christopher Scott <cscott@coastalfrontiers.com> Mon, Nov 13, 2017 at 5:48 PM
To: CustomerCare@ci.oceanside.ca.us

Hello,
Please forward the email below and attached PDF to the Oceanside Harbor Master. Thank you,

Christopher Scott, P.E.
Coastal Frontiers Corporation
882A Patriot Drive
Moorpark, CA 93021
818-341-8133
www.coastalfrontiers.com

---------- Forwarded message ----------
From: **Christopher Scott** <cscott@coastalfrontiers.com>
Date: Mon, Nov 13, 2017 at 5:31 PM
Subject: Notification of Hydrographic Survey Activities - Encinitas, CA
To: tschiasone@ci.oceanside.ca.us
Cc: Brady Richmond <brichmond@coastalfrontiers.com>, Greg Hearon <ghearon@coastalfrontiers.com>

Mr. Schiasone,
Coastal Frontiers Corporation will be conducting hydrographic survey activities offshore of San Elijo Lagoon near Encinitas, CA as part of the San Elijo Lagoon Restoration Project (SELRP). As required by the California State Lands Commission, I have attached a notice that includes details regarding the work. Please let me know if you have any questions or concerns.

Thank you,
Christopher Scott, P.E.
Coastal Frontiers Corporation
882A Patriot Drive
Moorpark, CA 93021
818-341-8133
www.coastalfrontiers.com

Notification of Hydrographic Survey Activities.pdf
329K

COASTAL FRONTIERS

Christopher Scott <cscott@coastalfrontiers.com>

Notification of Hydrographic Survey Activities - Encinitas, CA

Christopher Scott <cscott@coastalfrontiers.com> Mon, Nov 13, 2017 at 5:35 PM
To: ncscubacenter@att.net
Cc: Greg Hearon <ghearon@coastalfrontiers.com>, Brady Richmond <brichmond@coastalfrontiers.com>

Mr. Knyper,
Coastal Frontiers Corporation will be conducting hydrographic survey activities offshore of San Elijo Lagoon near Encinitas, CA as part of the San Elijo Lagoon Restoration Project (SELRP). As required by the California State Lands Commission, I have attached a notice that includes details regarding the work. We request that you post the notice in your shop to advise local divers. Please let me know if you have any questions or concerns.

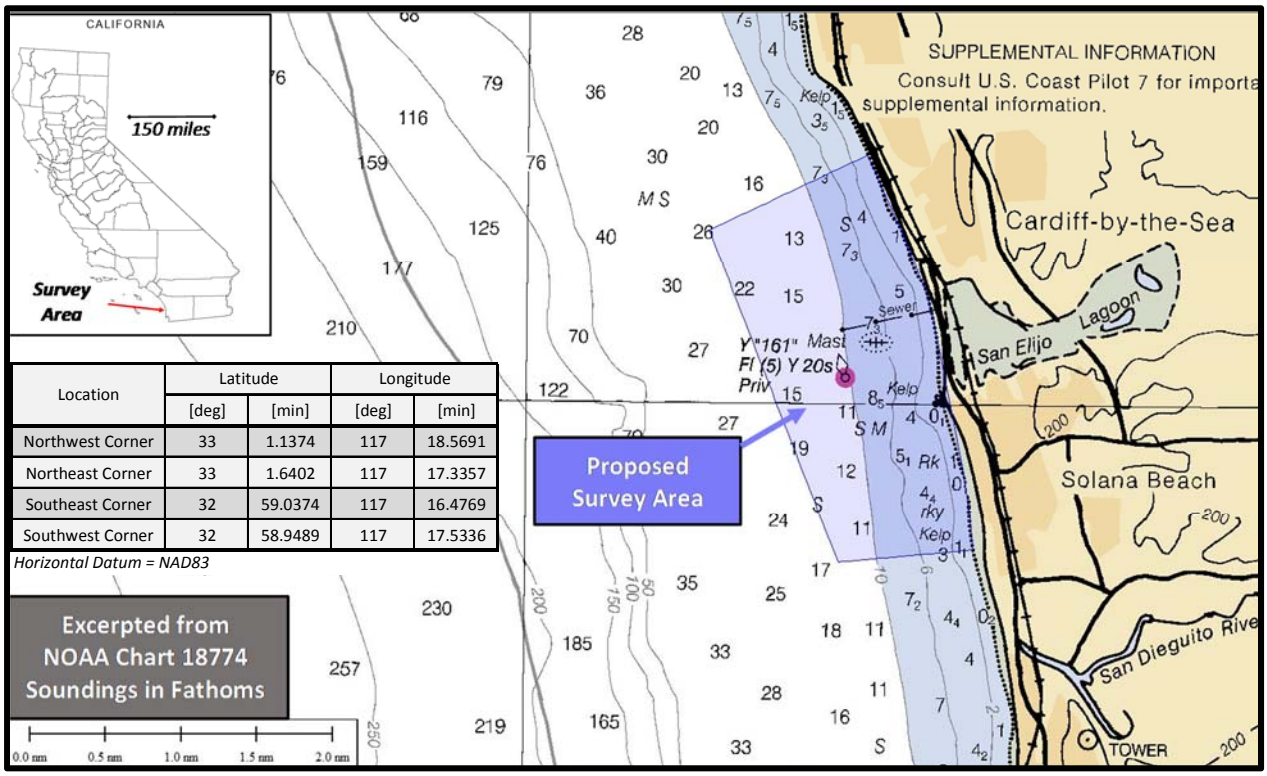
Thank you for your help,
Christopher Scott, P.E.
Coastal Frontiers Corporation
882A Patriot Drive
Moorpark, CA 93021
818-341-8133
www.coastalfrontiers.com

Notification of Hydrographic Survey Activities.pdf
329K

Notification of Hydrographic Survey Activities

Coastal Frontiers Corporation will be conducting hydrographic survey activities offshore of San Elijo Lagoon near Encinitas, CA as part of the San Elijo Lagoon Restoration Project (SELRP). The planned survey activities include multibeam and side scan sonar data collection within the nearshore region shown in Figure 1. Details regarding the work are provided below. Please contact the Coastal Frontiers Representative with any questions or concerns.

Point of Contact	Coastal Frontiers Corporation Christopher Scott 882A Patriot Drive Moorpark, CA 93021 (818) 341-8133 (office) (805) 791-1961 (cell)
Sonar Equipment	Multibeam Sonar (hull-mounted) Side Scan Sonar (towed, length of tether up to 30 ft)
Location	Nearshore region (up to 100 ft water depth) near San Elijo Lagoon in Encinitas, CA. NOAA Chart 18774 (see figure and inset table below)
Planned Date of Operation	4-days between December 5, 2017 and January 31, 2018. Daylight operations only.
Survey Vessel	R/V Chinook (AK 8018 AG) 34-ft Aluminum Catamaran Operator: Zephyr Marine, Ryan Braget
Radio Channel	VHF 16



Location	Latitude		Longitude	
	[deg]	[min]	[deg]	[min]
Northwest Corner	33	1.1374	117	18.5691
Northeast Corner	33	1.6402	117	17.3357
Southeast Corner	32	59.0374	117	16.4769
Southwest Corner	32	58.9489	117	17.5336

Figure 1. Location Map

ATTACHMENT F

SONAR SPECIFICATION SHEETS AND VERIFICATION OF SERVICE

Teledyne RESON

PLD13777-12

SeaBat® 7125

Ultra high Resolution Multibeam Echosounder

The new generation SeaBat 7125 builds on the field experience and feedback from many users around the world and brings unparalleled resolution and installation flexibility. The system is available in three separate configurations; one designed specifically for installation on survey vessels and 6000m depth rated systems for either ROV or AUV.

Each of these configurations provides superlative data quality and ease of use over depths from 0.5m to 500m. Enhanced features such as X-Range and Full Rate Dual Head bring unsurpassed performance levels to the SeaBat 7125.

Special emphasis has been put on maximizing operational efficiency and features such as variable swath width and roll stabilisation combined with a high ping rate and excellent data quality.

Surface Vessel Installation – SV2
The new SeaBat 7125-SV2 is a highly integrated single or dual frequency system designed with ease of installation and operation as a high priority. The system consists of a surface transceiver with integrated multiport card and a standard 25m cable run to the transducers. The transceiver hardware is suitable for running data acquisition software and is available with Teledyne RESON PDS2000 software pre-installed and configured.

ROV2
For deep-water use, the ROV version of the SeaBat 7125 is depth rated to 6000m and includes a titanium interface bottle. System performance is identical to other members of the SeaBat 7125 family and with optional features such as FlexMode and Full Rate Dual Head, the system provides state-of-the-art pipeline and umbilical profiling capability.

AUV
The AUV version of the 7125 provides on-board data processing and logging as well as interface to third party sensors. The electronics are supplied mounted on an aluminium frame for ease of integration and an optional 6000m depth-rated titanium electronics housing is available. The 7125-AUV provides high quality data and performance commensurate with the other versions of the 7125.

FEATURES

BEAM DENSITY
Up to 512 beams in selectable modes optimises operations for any survey type

ROLL STABILIZATION
Real-time roll stabilization maximizing usable swath

DEPTH
Dual frequency provides seamless coverage from 0.5 to 500m depth

IHO
Compliance with IHO SP44Ed5 over entire depth range

DIAGNOSTICS
Advanced diagnostics

HIGH SPEED
High ping rate allows highspeed operations without compromising data density

WATER COLUMN DATA
Allows collection of high density water column data for advanced processing

TELEDYNE RESON
Everywhereyoulook™

SeaBat® 7125

SEABAT 7125 SYSTEM SPECIFICATIONS

	7125 SV2	7125 ROV2	7125 AUV
Power requirement	Typical: 110-220 VAC, 50/60 Hz, 250 W. Max: 110-220 VAC, 50/60 Hz, 700 W.	Processor Typical: 110-220 VAC, 50/60 Hz, 110 W. Processor Max: 110-220 VAC, 50/60 Hz, 400 W. Wet end Typical: 48 VDC (+/- 10%), 115 W. Wet end Max: 48 VDC (+/- 10%) 250 W. Power requirements when Wet-ends are powered from sonar processor: 110-220 VAC, 50/60 Hz, 700 W.	48V DC (± 10%)
Transducer cable length	25m standard	3m standard 10m optional	3m standard 10m optional
LCU to processor cable length	N/A	25m (st), 3 m	N/A
System depth rating	25m	6000m	6000m optional
Frequency	200kHz or 400kHz (dual frequency available)		
Along-track transmit beamwidth	2° at 200kHz & 1° at 400kHz		
Across-track receive beamwidth	1° at 200kHz & 0.5° at 400kHz		
Max ping rate	50Hz (±1Hz)		
Pulse length	30µs – 300µs Continuous Wave; 300µs – 20ms Frequency Modulated (X-Range)		
Number of beams	512EA/ED at 400kHz, 256EA/ED at 200kHz		
Max swath angle	140° in Equi-Distant Mode; 165° in Equi-Angle Mode		
Typical depth [2])	0.5m to 150m at 400kHz, 0.5m to 400m at 200kHz		
Max depth [3])	>175m at 400kHz; 450m at 200kHz		
Depth resolution	6mm		
Data output	Bathmetry, sidescan and snippets 7K data format		
Temperature:	-2° to +35°C		
Flexmode:	Optional		
Full Rate Dual Head	400 KHz for ROV/ AUV		

For relevant tolerances for dimensions above and detailed outlined drawings see Product Description
1 All beam widths measured at -3dB, unsteered with a sound velocity of 1480m/s.
2 This is a depth range within which the system is normally operated, from the minimum depth to a depth value corresponding to the max. swath -50%.
3 This is the single value corresponding to the depth at which the swath is reduced to 10% of its max. value. For actual swath performance refer to Product Description.

SeaBat® 7125

SEABAT 7125 SYSTEM SPECIFICATIONS

Component	7125 SV2	7125 ROV2	7125 AUV
EM 7216 receiver	✓	✓	✓
TC 2181 dual frequency 200/ 400 khz projector	✓		
TC 2160 400khz projector		✓	✓
TC 2163 200khz projector (optional)		✓	✓
7-link control unit		✓	
Sonar processor unit with monitor, keyboard and pointer device		✓	
SV transceiver with monitor, keyboard and pointer device	✓		
7-i integrated control and processor unit			✓

Meassurements	Height [mm]	Width [mm]	Depth [mm]	Weight [kg/air]	Weight [kg/water]
TC 2181 df 200/ 400 khz projector	87	93	280	4.5	3.4
TC 2160 400 khz projector	77	62	285	2.7	1.7
TC 2163 200khz projector	115	100	280	7.5	5
EM 7216 200/400 khz receiver	137	496	102	10.7	5.7
Surface transceiver	5U	19”	557	20	N/A
LCU bottle	530	Ø174	N/A	23.5	12.0
ICPU frame	172	166	497	10	N/A
Sonar processor	5U	19”	630	30	N/A

OPTIONS:
- Mounting Bracket with Fairing
- SVP-70 sound velocity probe with 25m cable
- Standard Service Level Agreements (SLA)
- Fiber-optic conversion for ROV installations

TELEDYNE RESON
Everywhereyoulook™

SeaBat® 7125

Ultra high Resolution Multibeam Echosounder

SeaBat 7125- SV2

SeaBat 7125-ROV2

WHY CHOOSE A SEABAT 7125 SYSTEM?

- Maximum productivity during data collection
  - Up to165° swath
  - Roll Stabilization
  - Up to 512 beams in operator selectable modes
- Uncompromised clean data sets
  - Quality Filters/flags
  - Interactive, Comprehensive GUI
  - Industry leading bottom detect methods
- Ease of Installation and Use
  - Fully automatic operation
  - Single highly integrated topside transceiver
  - Integrated Multibeam acquisition and processing software
  - Extremely portable wet-end
- Maximum Operational Flexibility
  - 400 and 200kHz operation for seamless data collection from 0.5m to 500m
  - Advanced beam-forming with variable and steerable swath
  - Simultaneous output of bathymetry, Sidescan, Snippets backscatter, and raw water column data
  - Optional X-Range for increased range performance, ultra-high resolution and resistance to external noise
  - Optional Full Rate Dual Head
- 3 years warranty
  Our hardware is quality-tested to meet the most demanding standards, and backed by the full support of our comprehensive after-sales program, and 3 years of warranty you can be sure that the SeaBat 7125 won't let you down.

For more details visit www.teledyne-reson.com or contact your local Teledyne RESON Office. Teledyne RESON reserves the right to change specifications without notice. 2015©Teledyne RESON

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TELEDYNE RESON
Everywhereyoulook™

Post-Hire Inspection Record

Go to Kit Contents

Customer		
Order Number	HOF004989A	
Work order	FWO031802	Status: Created
Asset	H126516	
	LCD Monitor (W007016-R)	

Post-Hire Inspection checks	**Completed**	**Reading**	**Technician**
Ensure you have read & understood manufacturers instructions	✓		
Implement any safety requirements & use PPE where required	✓		
Check unit for Physical Damage	✓		
PAT test unit	✓		
Record Make and Model of Monitor (Required for FCC in US)	✓		
Check label for correct asset number and serial number	✓		
Cycle through different inputs and test that the ports work. (Component (HD), HDMI,VGA, Composite (SD), DVI)	✓		
Check all buttons function correctly	✓		
Confirm equipment photo added to order header (Pre-Mob Only - Do not release equipment without first adding images to AX and DropBox as directed in attached guide.)	✓		
All the Above Checks completed by:	✓		
Fail?-complete this WO, result to Yes & raise new repair WO (Change result to Yes if the unit fails any test, complete this work order & raise a new work order.)			
Work Order: FWO031802 - Status: Created			
Check method: Monitor Checklist			
Authorised By:			
Date Inspected:			

Post-Hire Inspection Record

Go to Kit Contents

Customer		
Order Number	HOF004989A	
Work order	FWO031316	Status: Completed
Asset	S219347	
	Reson 7101 Seabat Processor (W022014-R)	

Post-Hire Inspection checks	**Completed**	**Reading**	**Technician**
Ensure you have read & understood manufacturers instructions	✓		
Implement any safety requirements & use PPE where required.	✓		
Check for physical damage	✓		
PAT test processor and monitor	✓		
Check continuity & insulation breakdown of all subsea cables	✓		
Check length of all cables & tail for damage	✓		
Check connectors for damage	✓		
Clean processor fan filters	✓		
Connect Subsea equipment to processor via supplied decklead	✓		
Attach 2 monitors to Processor to test video card	✓		
On power up ensure Transmit power is set to zero	✓		
Check operation of mouse and keyboard	✓		
Check BITE menu ensuring no errors or alarms	✓		
Check processor has had MOXA card update (Instructions and Excel file with updated list are avalable on sharepoint link. Install new Moxa card if required.)	✓	Yes	Alex Iglesias
Check operation of all RS232 ports (checking 8 port moxa card is installed correctly in device manager)	✓		
Check operation of all Ethernet ports	✓		
Check operation of all USB ports	✓		
Ensure PPS is accepted	✓		
Check operation as dual head setup (if for dual head hire)	✓	Yes	Alex Iglesias

Post-Hire Inspection Record

Check software (FP) version is current. Record version: (latest feature pack (FP): G4 Processor: 3.1.(SV2: 3.7) G5 Processor: 4.0)	✓	G4	Alex Iglesias
Record if flexmode or FRDH are licensed features	✓	Flexmode	Alex Iglesias
Record 7K Center Version (found in "about seabat". G4 Processor: Latest: 5.3.9.6 (SV2 5.3.10.4) G5 processor: Latest: 6.1.0.13)	✓	G4	Alex Iglesias
Record 7K UI Version (Found in "about seabat". G4 Processor: Latest: 5.3.6.11 G5 processor: Latest: 6.1.0.13)	✓	G4	Alex Iglesias
Record 7K IO Version (found in "about seabat". G4 Processor: Latest: 4.0.0.10 G5 processor: Latest: 4.2.0.5 (SV: 4.10.10))	✓	G4	Alex Iglesias
Check for non standard software - uninstall as necessary	✓		
Ensure 7k loader firmware 60 is installed	✓	Yes	Alex Iglesias
Clean unit and transit case	✓		
Ensure all system labels are in good condition	✓		
Ensure manual supplied is correct revision	✓		
Confirm equipment photo added to order header (Pre-Mob Only - Do not release equipment without first adding images to AX and DropBox as directed in attached guide.)	✓	No	Alex Iglesias
All above checks completed by:	✓		Alex Iglesias
Fail?-complete this WO, result to Yes & raise new repair WO (Change result to Yes if the unit fails any test, complete this work order & raise a new work order.)			
Work Order: FWO031316 - Status: Completed			
Check method: Reson 7125-P Processor Checklist			
Authorised By: Alex Iglesias			
Date Inspected: 12/10/2017			

Post-Hire Inspection Record

Go to Kit Contents

Customer		
Order Number	HOF004989A	
Work order	FWO031315	Status: Completed
Asset	S219349	
	Reson 7101 100m Seabat Head (W022028-R)	

Post-Hire Inspection checks	**Completed**	**Reading**	**Technician**
Ensure you have read & understood manufacturers instructions	✓		
Implement any safety requirements & use PPE where required.	✓		
Check for physical damage to Receive array (complete 360deg)	✓	Yes	Alex Iglesias
Check for physical damage to Transmit transducer	✓	Yes	Alex Iglesias
Check for physical damage to bulkhead connector	✓	Yes	Alex Iglesias
Remove connector protection plate & check for delamination	✓		
ALU heads only: Check condition of anodes-clean/replace	✓	Yes	Alex Iglesias
Check fairing & insulation kits are complete & undamaged	✓	Yes	Alex Iglesias
Connect head to processor via supplied decklead	✓		
Ensure head is successfully calibrated	✓		
On power on ensure Transmit power is set to zero	✓		
Ensure no leak alarm is present in software	✓		
Check BITE for any RED/Yellow channels - advise supervisor	✓	Yes	Alex Iglesias
Photograph BITE menu showing channels	✓		
Check TX operation - Do not transmit in air longer than 1min	✓		
Perform 'rub test' ensuring array responds uniformly	✓		
Wet test sonarhead in tank	✓		
Clean unit and transit case	✓		
Ensure all system labels are in good condition	✓		

Post-Hire Inspection Record

Confirm equipment photo added to order header (Pre-Mob Only - Do not release equipment without first adding images to AX and DropBox as directed in attached guide.)	✓	No	Alex Iglesias
All above checks completed by:	✓		Alex Iglesias
Fail?-complete this WO, result to Yes & raise new repair WO (Change result to Yes if the unit fails any test, complete this work order & raise a new work order.)	✓	No	Alex Iglesias
Work Order: FWO031315 - Status: Completed			
Check method: Reson 8101 Seabat head checklist			
Authorised By: Alex Iglesias			
Date Inspected: 12/10/2017			

Post-Hire Inspection Record

Go to Kit Contents

Customer		
Order Number	HOF004989A	
Work order	FWO031317	Status: Completed
Asset	S219351	
	Reson 50m Seabat Cable (W022063-R)	

Post-Hire Inspection checks	**Completed**	**Reading**	**Technician**
Ensure you have read & understood manufacturers instructions	✓		
Implement any safety requirements & use PPE where required.	✓		
Check Reel/drum for physical damage (If applicable)	✓		
Run out entire length of cable	✓		
Record length in meters	✓	50.0000	Alex Iglesias
Check cable is fitted correctly to drum (NOTE: Normally Male end - Top, Female end - Bottom. If applicable)	✓		
Ensure sufficient access to top end connector (if applicable)	✓		
Check entire length of cable for damage	✓		
Clean entire length of cable	✓		
Spool cable back onto reel/drum neatly (If applicable)	✓		
Clean reel/drum (If applicable)	✓		
Meter & megger cable. Ensure >999MΩ	✓	999.000	Alex Iglesias
Ensure cable is discharged fully after meggering (WARNING: Failure to do so may result in damage to equipment when cable is plugged.)	✓	Yes	Alex Iglesias
Test cable with complete system and confirm functional	✓	Yes	Alex Iglesias
Ensure connectors are protected from moisture during transit	✓		
Ensure connectors are secure to avoid damage during transit	✓		
Ensure all system labels are in good condition	✓		
Confirm equipment photo added to order header (Pre-Mob Only - Do not release equipment without first adding images to AX and DropBox as directed in attached guide.)	✓	No	Alex Iglesias

Post-Hire Inspection Record

All above checks completed by:	✓		Alex Iglesias
Fail?-complete this WO, result to Yes & raise new repair WO (Change result to Yes if the unit fails any test, complete this work order & raise a new work order.)	✓	No	Alex Iglesias
Work Order: FWO031317 - Status: Completed			
Check method: Umbilical checklist			
Authorised By: Alex Iglesias			
Date Inspected: 12/10/2017			

Post-Hire Inspection Record

Go to Kit Contents

Customer		
Order Number	HOF004989A	
Work order	FWO031801	Status: Created
Asset	H126524	
	Reson 7125-SV2 Processor (W022081-R)	

Post-Hire Inspection checks	**Completed**	**Reading**	**Technician**
Ensure you have read & understood manufacturers instructions	✓		
Implement any safety requirements & use PPE where required.	✓		
Check for physical damage	✓		
PAT test processor and monitor	✓		
Check continuity & insulation breakdown of all subsea cables	✓		
Check length of all cables & tail for damage	✓		
Check connectors for damage	✓		
Clean processor fan filters	✓		
Connect Subsea equipment to processor via supplied decklead	✓		
Attach 2 monitors to Processor to test video card	✓		
On power up ensure Transmit power is set to zero	✓		
Check operation of mouse and keyboard	✓		
Check BITE menu ensuring no errors or alarms	✓		
Check processor has had MOXA card update (Instructions and Excel file with updated list are avalable on sharepoint link. Install new Moxa card if required.)	✓		
Check operation of all RS232 ports (checking 8 port moxa card is installed correctly in device manager)	✓		
Check operation of all Ethernet ports	✓		
Check operation of all USB ports	✓		
Ensure PPS is accepted	✓		
Check operation as dual head setup (if for dual head hire)	✓		

Post-Hire Inspection Record

Check software (FP) version is current. Record version: (latest feature pack (FP): G4 Processor: 3.1.(SV2: 3.7) G5 Processor: 4.0)	✓		
Record if flexmode or FRDH are licensed features	✓		
Record 7K Center Version (found in "about seabat". G4 Processor: Latest: 5.3.9.6 (SV2 5.3.10.4) G5 processor: Latest: 6.1.0.13)	✓		
Record 7K UI Version (Found in "about seabat". G4 Processor: Latest: 5.3.6.11 G5 processor: Latest: 6.1.0.13)	✓		
Record 7K IO Version (found in "about seabat". G4 Processor: Latest: 4.0.0.10 G5 processor: Latest: 4.2.0.5 (SV: 4.10.10))	✓		
Check for non standard software - uninstall as necessary	✓		
Ensure 7k loader firmware 60 is installed	✓		
Clean unit and transit case	✓		
Ensure all system labels are in good condition	✓		
Ensure manual supplied is correct revision	✓		
Confirm equipment photo added to order header (Pre-Mob Only - Do not release equipment without first adding images to AX and DropBox as directed in attached guide.)	✓		
All above checks completed by:	✓		
Fail?-complete this WO, result to Yes & raise new repair WO (Change result to Yes if the unit fails any test, complete this work order & raise a new work order.)			
Work Order: FWO031801 - Status: Created			
Check method: Reson 7125-P Processor Checklist			
Authorised By:			
Date Inspected:			

Post-Hire Inspection Record

Go to Kit Contents

Customer		
Order Number	HOF004989A	
Work order	FWO031803	Status: Created
Asset	S175768	
	Reson 7125-SV2 Receiver (W022083-R)	

Post-Hire Inspection checks	**Completed**	**Reading**	**Technician**
Ensure you have read & understood manufacturers instructions	✓		
Implement any safety requirements & use PPE where required.	✓		
Check for physical damage paying attention to receiver face	✓		
Check bulkhead connector for physical damage	✓		
Connect Reveiver to a complete 7125 system	✓		
Check BITE menu ensuring no errors or alarms	✓		
Ensure unit 'normalises'	✓		
Perform 'rub test' ensuring array responds uniformly	✓		
Wet test system in tank ensuring data is seen in software	✓		
Clean unit & transit case-Do NOT use chemicals on transducer	✓		
Ensure all system labels are in good condition	✓		
Confirm equipment photo added to order header (Pre-Mob Only - Do not release equipment without first adding images to AX and DropBox as directed in attached guide.)	✓		
All above checks completed by:	✓		
Fail?-complete this WO, result to Yes & raise new repair WO (Change result to Yes if the unit fails any test, complete this work order & raise a new work order.)			
Work Order: FWO031803 - Status: Created			
Check method: Reson 7125 Receiver Checklist			
Authorised By:			
Date Inspected:			

Post-Hire Inspection Record

Go to Kit Contents

Customer		
Order Number	HOF004989A	
Work order	FWO031804	Status: Created
Asset	H195612	
	Reson 7125-SV2 200/400kHz Projector (W022084-R)	

Post-Hire Inspection checks	**Completed**	**Reading**	**Technician**
Ensure you have read & understood manufacturers instructions	✓		
Implement any safety requirements & use PPE where required.	✓		
Check for physical damage	✓		
Check bulkhead connector for physical damage	✓		
Connect projector to a complete 7125 system	✓		
Power up processor & ensure Transmit power is set to zero	✓		
Check BITE menu ensuring no errors or alarms	✓		
Adjust Tx power to 200dB, ensure audible pulse is heard	✓		
Reduce Tx power ensuring audible pulse decreases accordingly	✓		
Wet test system in tank ensuring data is seen in software	✓		
Test projector in both 200 & 400kHz operation	✓		
Clean unit & transit case-Do NOT use chemicals on transducer	✓		
Ensure all system labels are in good condition	✓		
Confirm equipment photo added to order header (Pre-Mob Only - Do not release equipment without first adding images to AX and DropBox as directed in attached guide.)	✓		
All above checks completed by:	✓		
Fail?-complete this WO, result to Yes & raise new repair WO (Change result to Yes if the unit fails any test, complete this work order & raise a new work order.)			
Work Order: FWO031804 - Status: Created			
Check method: Reson 7125 SV 200/400 Projector checklist			
Authorised By:			

Post-Hire Inspection Record

Date Inspected:			

Post-Hire Inspection Record

Go to Kit Contents

Customer		
Order Number	HOF004989A	
Work order	FWO031805	Status: Created
Asset	S12333	
	Valeport MiniSVS 100mm (W028034-R)	

Post-Hire Inspection checks	**Completed**	**Reading**	**Technician**
Ensure you have read & understood manufacturers instructions	✓		
Implement any safety requirements & use PPE where required.	✓		
Check for physical damage - paying attention to bulkhead	✓		
Check calibration validity - Record cal date (Valid 2 years)	✓		
Meter & Megger supplied tail & test lead	✓		
Test unit using Hyperterminal	✓		
Ensure data string & output rate can be changed	✓		
Set Baud rate to 19200	✓		
Check Unit S/N matches housing and Asset label, #034	✓		
Set ouput rate to 1 Hz	✓		
Set output format to Alternative #3. #082;3 command	✓		
Check speed of sound in test tank. Ensure is stable.	✓	0.00000	
Where possible compare result to second unit (Results should be within ±0.3m/s)	✓		
If being supplied with Reson 81-P set string to #082;csv	✓		
Fit Ashtead tamper evident sticker to endcap	✓		
Clean unit & transit case	✓		
Ensure all system labels are in good condition	✓		
Confirm equipment photo added to order header (Pre-Mob Only - Do not release equipment without first adding images to AX and DropBox as directed in attached guide.)	✓		
All above checks completed by:	✓		

Post-Hire Inspection Record

Fail?-complete this WO, result to Yes & raise new repair WO (Change result to Yes if the unit fails any test, complete this work order & raise a new work order.)			
Work Order: FWO031805 - Status: Created			
Check method: Valeport mini SVS checklist			
Authorised By:			
Date Inspected:			

4125

SIDE SCAN SONAR SYSTEM

FEATURES

- Ultra high resolution images
- Lightweight for one person deployment
- Standard heading, pitch, roll & pressure sensors
- Choice of dual simultaneous frequencies
- Runs on AC or DC
- Pole mount option for shallow water use

APPLICATIONS

- Hydrographic Surveys
- Geological Surveys
- Search & Recovery
- Channel/Clearance Surveys
- Bridge/Pier/Harbor Wall Inspection
- Hull Inspections

EdgeTech's 4125 Side Scan Sonar System was designed with both the Search & Recovery (SAR) and shallow water survey communities in mind. The 4125 utilizes EdgeTech's Full Spectrum® CHIRP technology, which provides higher resolution imagery at ranges up to 50% greater than non-CHIRP systems operating at the same frequency. This translates into more accurate results and faster surveys, thus cutting down on costs.

Two dual simultaneous frequency sets are available for the 4125 depending on the application. The 400/900 kHz set is the perfect tool for shallow water survey applications, providing an ideal combination of range and resolution. The 600/1600 kHz set is ideally suited for customers that require ultra high resolution imagery in order to detect very small targets (SAR).

The 4125 system can be powered by both AC and DC for added versatility and is delivered in portable rugged cases for ease of transport from site-to-site. As is standard with all of EdgeTech's towed side scan systems, the 4125 comes with a safety recovery system which will prevent the loss of a towfish if it becomes snagged on an obstacle during a survey.

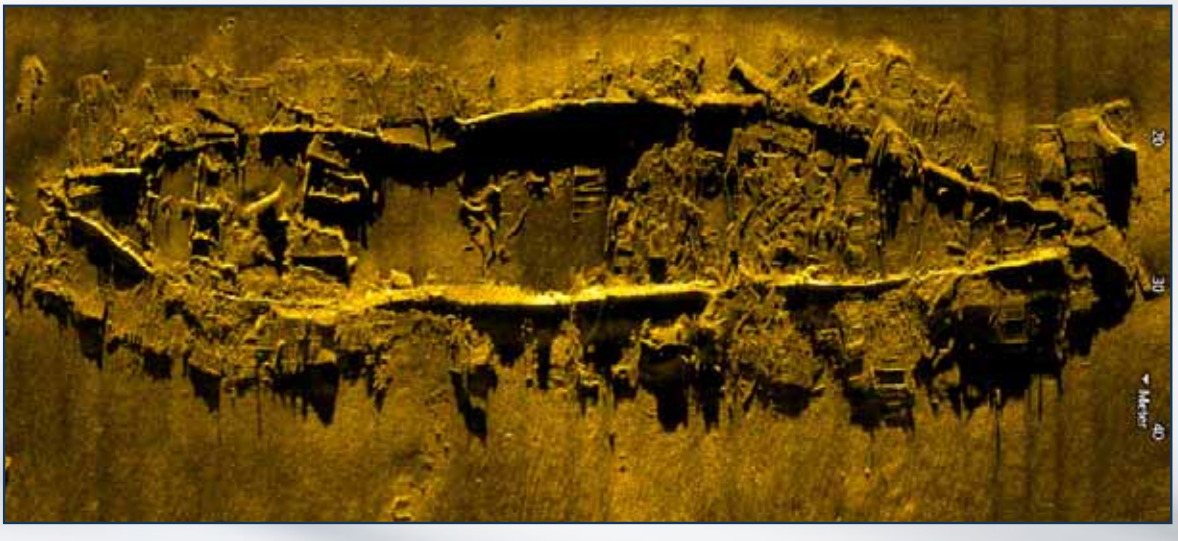
A standard 4125 System comes with a rugged stainless steel towfish and a portable water resistant topside processor including a laptop computer (Optional: Splash Proof/Ruggedized Laptop). A 50 meter Kevlar tow cable is included as standard with customer-specified lengths also available. Multiple options are available such as a v-fin depressor, keel weight, pole mount and hull scan bracket for added versatility.

4125

SIDE SCAN SONAR SYSTEM

KEY SPECIFICATIONS

SONAR	
Frequencies (Dual Simultaneous)	Choice of either a 400/900 kHz or 600/1600 kHz towfish
Pulse Type	EdgeTech's Full Spectrum® CHIRP (user-selectable CW pulses also included)
Operating Range	150m @ 400 kHz, 75m @ 900 kHz; 120m @ 600 kHz, 35m @ 1600 kHz
Horizontal Beam Width	0.46° @ 400 kHz, 0.28° @ 900 kHz; 0.33° @ 600 kHz, 0.20° @ 1600 kHz
Vertical Beam Width	50°
Resolution Across Track	400 kHz: 2.3 cm, 900 kHz: 1.0 cm, 600 kHz: 1.5 cm, 1600 kHz: 0.6 cm
TOWFISH	
Diameter	9.5 cm (3.75 inches)
Length	112 cm (44 inches)
Weight in Air	20 kg (44 pounds)
Tow Cable Type	Coaxial up to 600m max length (will provide a typical operational depth down to 200m)
Max Depth Rating of Towfish	200m
Material	Stainless Steel
Standard Sensors	Heading, Pitch, Roll, Pressure (Depth)
TOPSIDE PROCESSOR	
Power Input	12-24 VDC or 115/230 VAC, 50/60 Hz
Connections	AC, DC, Ethernet (to laptop), Towfish
Hardware	Laptop Computer (Optional: Splash Proof/Ruggedized Laptop)
Operating System	Windows® 7
Acquisition Software	EdgeTech DISCOVER
SYSTEM OPTIONS	Keel weight, v-fin depressor wing, pole mount, quick change hull scan bracket



For more information please visit EdgeTech.com

info@EdgeTech.com | USA 1.508.291.0057

Survey Equipment Services, Inc

Edgetech 4125P Test Checklist

Engineer:..... Juan Ruiz

Date:..... 10/11/17

4125P Topside | Fish SN:: ~~45870~~ 53958 400/900 ~~600/1600~~

LPT: 53963

1. Check for damage, missing items and report.....	✓
2. Power up the system on AC with tow fish in the SES test tank.....	✓
3. Once Discover on laptop shows "NET ON" connect GPS, verify.....	✓
4. Ping tow fish on both frequencies at 50M range for 5 mins	✓
5. Record data and observe (null) GPS ON in Discover.....	✓
6. Turn on bottom track, confirm altitude & depth changes.....	✓
T: A | D B: A | D	
7. Confirm good return and data values on both side SSS 	✓
HF p | s , p | s	✓
LF p | s , p | s	✓
8. Repeat steps 3 – 7 on 24 VDC power.....	✓
9. Power off and unplug unit. Check spares and bag cables....	✓
10. Clean unit, put away and generate green tag	✓
11. File checklist in folder Edgetech 4125P Acceptance Tests.....	✓

SIGNED _____ PASS/FAIL

For full instructions consult document: 4125P1F
4125P1C

Survey Equipment Services, Inc

Edgetech 4125P Test Checklist

Engineer:..... Juan Ruiz

Date:..... 10/11/17

4125P Topside | Fish SN:: #54216 #54182 400/900 ~~600/1600~~

LPT: 54166

1. Check for damage, missing items and report.....	✓
2. Power up the system on AC with tow fish in the SES test tank.....	✓
3. Once Discover on laptop shows "NET ON" connect GPS, verify.....	✓
4. Ping tow fish on both frequencies at 50M range for 5 mins	✓
5. Record data and observe (null) GPS ON in Discover.....	✓
6. Turn on bottom track, confirm altitude & depth changes.....	✓
T: A | D B: A | D	
7. Confirm good return and data values on both side SSS 	✓
HF p | s , p | s	✓
LF p | s , p | s	✓
8. Repeat steps 3 – 7 on 24 VDC power.....	✓
9. Power off and unplug unit. Check spares and bag cables....	✓
10. Clean unit, put away and generate green tag	✓
11. File checklist in folder Edgetech 4125P Acceptance Tests.....	✓

SIGNED _____ PASS/~~FAIL~~

For full instructions consult document: 4125P1F
4125P1C

ATTACHMENT G

MARINE WILDLIFE CONTINGENCY PLAN
WITH MWM RESUMES

COASTAL

FRONTIERS

MARINE WILDLIFE CONTINGENCY PLAN DURING GEOPHYSICAL SURVEYS

Prepared for
California State Lands Commission

Prepared by
Coastal Frontiers Corporation

November 2017

MARINE WILDLIFE CONTINGENCY PLAN
DURING GEOPHYSICAL SURVEYS

Coastal Frontiers Corporation
November 8, 2017

1. Overview

This Marine Wildlife Contingency Plan (MWCP) has been prepared as a general guide for geophysical marine survey operations conducted by Coastal Frontiers Corporation under California State Lands Commission (CSLC) permit PRC 9404. The work will include bathymetric surveys using both single-beam and multi-beam echosounders, side scan sonar, and sub-bottom profiling equipment. The precise work plan and locations will be defined in the future as projects become available. Figure 1 presents a map of the State showing offshore work areas I, II, III, and IV. The survey limits will be bounded by the Mean High Tide Line (MHTL) and the 3 mile limit of State waters. Geophysical surveys will only be conducted during daylight hours. The surveys could occur during any month of the year and presently have unspecified durations.

2. Potential Marine Wildlife of Concern

The list of marine mammals and reptiles that inhabit California coastal waters is extensive. A list is included in Table 1 that includes whales, dolphins, porpoises, seals, sea lions, and sea turtles.

3. Sound Source Summary

The acoustic energy sources that may be deployed as part of geophysical survey operations are expected to include single beam bathymetric sonar, multibeam bathymetric sonar, side scan sonar, and a sub-bottom profiler. Prior to each survey effort, a table delineating the acoustic characteristics of the equipment planned for use will be submitted with the CSLC pre-survey notification.

4. Marine Protected Areas

Prior to commencement of survey activities in or potentially affecting Marine Protected Areas (MPAs), coordination with CLSC staff, California Department of Fish & Wildlife (CDFW), and any other appropriate permitting agency will be conducted regarding proposed operations within MPAs.

5. Marine Wildlife Monitoring Methods

Prior to commencement of survey operations, NOAA Long Beach office staff and local whale watching operations shall be contacted to acquire information on the current composition and relative abundance of marine wildlife offshore. This information will be conveyed to the vessel operator, crew, survey party chief, and onboard Marine Wildlife Monitor(s) prior to departure.

Unless CLSC exceptions apply, a minimum of two (2) qualified Marine Wildlife Monitors (MWM) who are experienced in marine wildlife observations shall be on board the survey vessel throughout both transit and data collection activities. All visual monitoring shall be conducted from the highest practical vantage point aboard the survey vessel. The monitor will be equipped with binoculars and direct communication with the vessel pilot house. The MWM will have the authority to stop or re-direct vessel and survey operations when necessary to avoid collisions with wildlife.

The monitor will survey the area prior to the startup of equipment. Equipment will be started and the survey operations will begin only after no marine mammals (pinnipeds or cetaceans) or marine reptiles are sighted within the equipment-specific safety zone.

A “soft start” technique will be used at the beginning of survey activities each day (or following shutdown) to allow any marine mammal that may be in the immediate area to leave before the sound sources reach full energy. To the extent possible, the equipment shall be initiated at the lowest practical sound level, and increased at steps of 6 decibels per five minute period.

For geophysical equipment operated below a frequency of 200 kHz, safety zone monitoring (MM BIO-3, Exhibit H) shall be conducted by the MWM(s) by observing the area within a radius of the equipment as defined in the table below. Safety zone monitoring will not be required if the equipment is operated at or above a frequency of 200 kHz. The onboard MWM(s) shall have the authority to stop operations if a mammal or reptile is observed within the specified safety zone (below), or if large concentrations of diving birds/seabirds are observed in the immediate vicinity. The MWM(s) shall also have the authority to recommend continuation or cessation of operations during periods of limited visibility (i.e., fog, rain).

Equipment Type	Safety Zone (radius, m)
Single Beam Echosounder	50
Multibeam Echosounder	500
Side-Scan Sonar	600
Subbottom Profiler	100
Boomer System	100

For surveys within 300 meters of a pinniped haul-out site, the survey vessel shall not approach within 91m, consistent with National Marine Fisheries Service (NMFS) guidelines. Survey activities close to haul-out sites shall be conducted in an expedited manner to minimize the potential for disturbance of pinnipeds on land, and MWMs shall monitor pinniped activity onshore as the vessel approaches, observing and reporting on the number of pinnipeds potentially disturbed (e.g., head lifting, flushing into the water).

If a marine mammal or sea turtle is observed within or is about to enter the specified safety zone, the MWM(s) shall notify the vessel captain and crew to immediately shut down the geophysical equipment.

i. If a marine mammal and/or sea turtle's actions are observed to be irregular, the MWM(s) shall have the authority to recommend that all geophysical equipment be shut down.

ii. If the geophysical equipment is shut down, the equipment shall not be restarted and ramped up to full power until the animal(s) is/are outside of the safety zone or have not been observed for 15 minutes. Geophysical equipment shall not be ramped up from a shut down if the safety zone cannot be observed.

If a whale is observed within the project area and/or is observed proximal to the vessel during transit/survey periods, the vessel captain shall:

i. Maintain a minimum distance of 100 meters (330 feet) from the sighted whale(s);

ii. Refrain from crossing directly in front of or across the path of sighted whales;

iii. Transit parallel to the whale and maintain a constant speed that is not faster than the whale's speed;

iv. Not use the vessel to herd or drive whales; and

v. If a whale engages in evasive or defensive action, slow the vessel and move away from the animal until the animal calms or moves out of the area.

If a marine mammal or sea turtle is sighted within the equipment safety zone prior to start-up of the geophysical equipment, the monitor will observe for another 15 minute period. After a 15 minute period with no sightings, the monitor will report to the pilot house and the survey team that operations may begin. The monitor will continue to make observations throughout the survey operations. If a marine mammal or sea turtle is sighted in the safety zone during survey data collection, the observer will instruct the survey operations crew to cease operations and not resume

surveys until the zone is clear from marine mammals and sea turtles for at least 15 minutes. Marine mammal and sea turtle observations made during the survey will be recorded on daily observation data sheets and included in each final project report.

While collecting geophysical data, the survey vessel will travel at approximately 3 knots (~3.5 miles/hour) along each transect line. The length of time for each survey period will vary depending on the total length of the survey lines. Geophysical data will be collected during straight-line transects and also during vessel turns. The vessel will begin slowly prior to coming up to survey speed. The longest survey periods will encompass the entire day on site, in order to maximize data collection. It is likely that the survey activity will be terminated periodically for various operational needs. Acoustic pulse-generating equipment shall be operated for no more than ten (10) hours total each survey day.

The survey equipment will be started and stopped at different times, have different signal pulse rates, and will operate at different sound frequencies. Therefore, the various survey equipment systems (bathymetry, side-scan sonar, sub-bottom profiler) will not emit signals simultaneously.

The speed of travel to and from the offshore working grounds will be specific to the survey vessel, likely to vary between 10 and 15 knots. During the transit time, the marine wildlife monitor will be stationed on the vessel bridge or on the bow to monitor any marine mammals or sea turtles that are seen in the area. Communication of the monitor with the pilot house will be required to ensure that collisions or interactions between marine mammals/sea turtles and the vessel are avoided.

To minimize interaction with fishing gear that may be present in the survey area, the vessel shall inspect the proposed survey corridor prior to commencing survey operations to note and record the presences, type, and location of deployed fishing gear (i.e., buoys). No survey lines within 30m (100 ft) of observed fishing gear shall be conducted. The survey crew shall not remove or relocate any fishing gear.

6. Reporting

The marine wildlife monitor will document each distinct marine mammal or sea turtle species observed during each geophysical survey, both during the operation of the survey equipment and during transit to and from port. Daily observation sheets will include the following:

- Date and time of individual observations;
- Species observed;
- Overall numbers of individuals observed;

- Distance from survey vessel;
- Direction of movement of observed marine mammals or sea turtles;
- Behavior exhibited;
- Any marine mammal behavioral changes that could be due to the geophysical surveys;
- Actions taken to modify vessel/survey operations when an animal is observed within the equipment safety zone of the vessel;
- Results of actions taken.

Based on these observations and actions, the findings of the monitor will be included in the final monitoring report. This report will be prepared by the observer and submitted to the California State Lands Commission (CSLC) within 30 days of completion of the geophysical survey operations and will include copies of the onboard monitor's daily observation records.

If a collision with marine wildlife occurs, the vessel operator will document the conditions under which the accident occurred, including the following:

- Location of the vessel when the collision occurred (latitude and longitude);
- Date and time of collision;
- Speed and heading of the vessel at the time of collision;
- Observation conditions (e.g., wind speed and direction, swell height, visibility in miles or kilometers, and presence of rain or fog);
- Species of marine wildlife contacted;
- Whether an observer was observing for marine wildlife at the time of the collision;
- Name of vessel, operator (company), and captain or officer in charge of the vessel at the time of accident.

Collisions or other project-resulting impacts with marine wildlife will be reported promptly to the NOAA Fisheries Stranding Coordinator. From the report, the Stranding Coordinator will coordinate subsequent action, including enlisting the aid of marine mammal rescue organizations, if appropriate.

Although NOAA Fisheries has primary responsibility for marine mammals in both state and federal waters, the California Department of Fish and Game (CDFG) should also be advised that an incident has occurred in state waters affecting a protected species. Reports should be communicated to the federal and state agencies listed below:

Federal Agency

Stranding Coordinator
Southwest Region
National Marine Fisheries Service
Long Beach, CA 90802-4213
(562) 980-4017

State Agencies

Enforcement Dispatch Desk
California Department of Fish and Game
Long Beach, CA 90802
(562) 590-5132
(562) 590-5133

California State Lands Commission
Division of Environmental Planning and Management
Sacramento, CA 95825
(916) 574-1938
slc.oggp@slc.ca.gov

Figure 1. Location Map of Potential Survey Areas

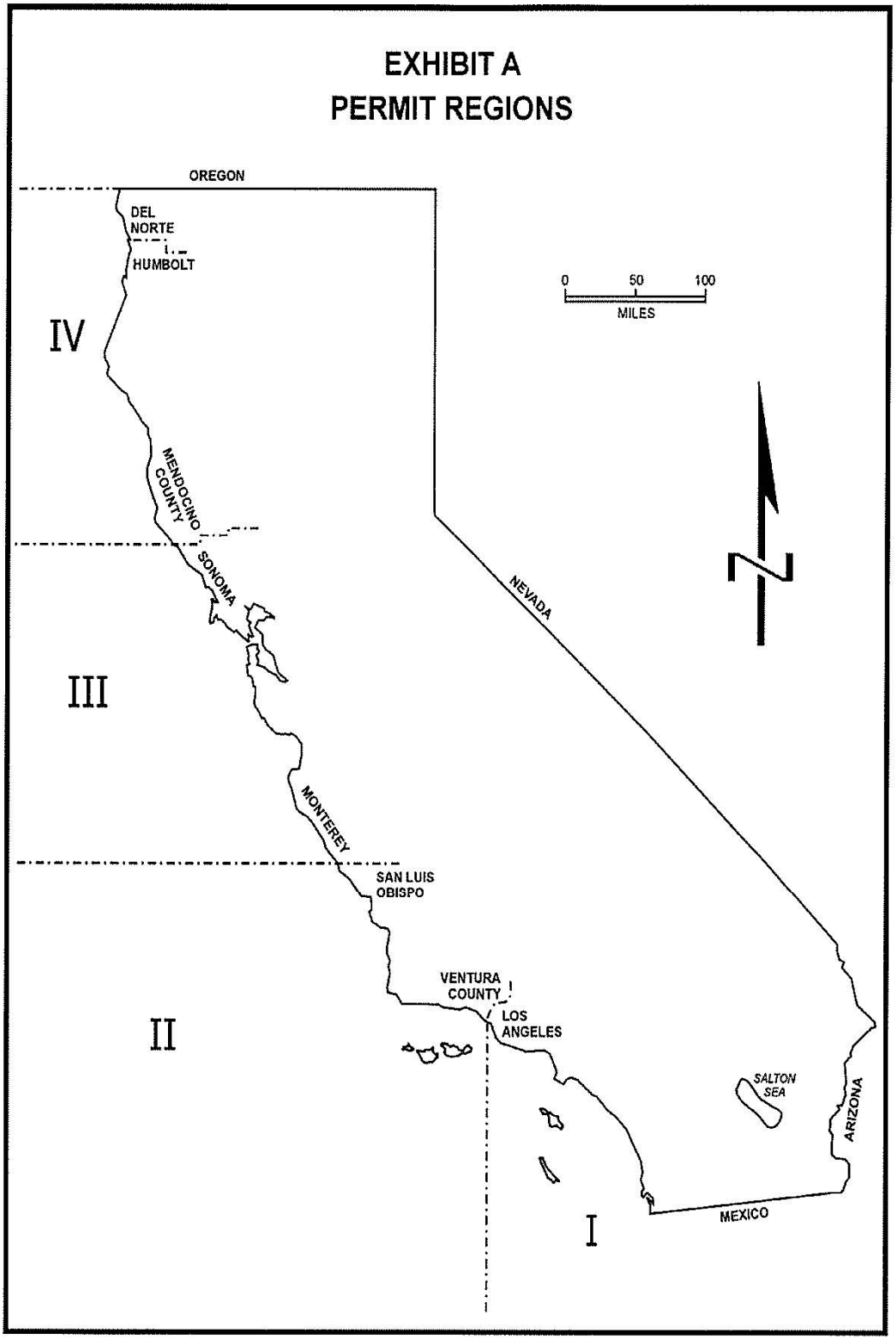


TABLE 1
MARINE MAMMALS AND REPTILES OF CALIFORNIA COASTAL WATERS

Whales, Dolphins, Porpoises

Order: Cetacea **Family**: Eschrichtiidae
- Gray Whale, *Eschrichtius robustus* (migrant)

Order: Cetacea **Family**: Balaenopteridae
- Minke Whale, *Balaenoptera acutorostrata* (vagrant)
- Sei Whale, *Balaenoptera borealis* (vagrant)
- Blue Whale, *Balaenoptera musculus* (vagrant)
- Fin Whale, *Balaenoptera physalus* (vagrant)
- Humpback Whale, *Megaptera novaeangliae* (vagrant)

Order: Cetacea **Family**: Balaenidae
- North Pacific Right Whale - *Eubalaena japonica* (vagrant)

Order: Cetacea **Family**: Delphinidae
- Short-beaked Common Dolphin, *Delphinus delphis* [3]
- Long-beaked Common Dolphin, *Delphinus capensis* [4]
- Short-finned Pilot Whale, *Globicephala macrorhynchus*
- Grampus, *Grampus griseus*
- White-sided Dolphin, *Lagenorhynchus obliquidens*
- Northern Right Whale Dolphin, *Lissodelphis borealis*
- Killer Whale, *Orcinus orca*
- False Killer Whale, *Pseudorca crassidens*
- Pantropical Spotted Dolphin, *Stenella attenuata*
- Striped Dolphin, *Stenella coeruleoalba*
- Rough-toothed Dolphin, *Steno bredanensis*
- Bottlenose Dolphin, *Tursiops truncatus*

Order: Cetacea **Family**: Phocoenidae
- Dall's Porpoise - *Phocoenoides dalli*
- Harbour Porpoise - *Phocoena*

Order: Cetacea **Family**: Physeteridae
- Pygmy Sperm Whale - *Kogia breviceps*
- Dwarf Sperm Whale - *Kogia simus*
- Sperm Whale - *Physeter macrocephalus*

Order: Cetacea **Family**: Ziphiidae
- North Pacific Bottle-nosed Whale, *Berardius bairdii*
- Moore's Beaked Whale, *Mesoplodon carlhubbsi*
- Dense-beaked Whale, *Mesoplodon densirostris*
- Ginkgo-toothed Beaked Whale, *Mesoplodon ginkgodens*
- Perrin's Beaked Whale, *Mesoplodon perrini*
- North Pacific Beaked Whale, *Mesoplodon stejnegeri*
- Goose-beaked Whale, *Ziphius cavirostris*

Seals, Sea Lions

Order: Carnivora **Family**: Otariidae

- California Sea Lion*(Zalophus californianus)*

Order: Carnivora **Family**: Otariidae

- Guadalupe Fur Seal, *Arctocephalus townsendi*
- Northern Fur Seal, *Callorhinus ursinus*
- Northern (Steller) Sea Lion, *Eumetopias jubatus*
- California Sea Lion, *Zalophus californianus*
-

Order: Carnivora **Family**: Phocidae

- Northern Elephant Seal, *Mirounga angustirostris*
- Harbor Seal, *Phoca vitulina*

Sea Turtles (marine reptiles)

Order: Cheloniidae **Family:** Caretta

- Loggerhead Sea Turtle, Caretta

Order: Cheloniidae **Family:** Chelonia

- Green Sea Turtle, Chelonia mydas

Order: Cheloniidae **Family:** Eretmochelys

- Hawksbill Sea Turtle, Eretmochelys imbricata
- Pacific Hawksbill Sea Turtle, Eretmochelys imbricata bissa

Order: Cheloniidae **Family:** Lepidochelys

- Ridley Sea Turtle, Lepicochelys olivacea

Order: Dermochelyidae **Family:** Dermochelys

- Leatherback Sea Turtle, Dermochelys coriacea

CHRISTOPHER J. **LACK**

2764 Piantino Circle, San Diego, Ca. 92108 | C: (714) 925-4730 | c_lack@msn.com

SUMMARY

Extensive background in biological sciences and research. Knowledge in archaeological methods, terminology and survey methodologies. Six years of environmental surveying, three years of archaeological experience in the field, and eleven years of extensive biological studies.

HIGHLIGHTS

- Thoroughness at analyzing and recording specimen information.
- Knowledge of regulations and ordinances.
- Communication skills
- Excellent written and verbal skills
- Strong background and experience in outdoor work and crew support.
- Able to work long hours under deadline pressure.
- Principles of geography

ACCOMPLISHMENTS

Project Management

- Held supervisory role at excavation of archaeological resources of the historic period.
- Publications and research- Evaluation and Assessment of the Merits, Challenges, Successes, and Failures of the Deployment of Wireless Technology in Archaeology: The Carmel Mission Archaeological Project (2004)

EXPERIENCE

07/2006 to Current

FISHERIES BIOLOGIST

Frank Orth & Associates – Long Beach, CA

- Worked as a Pacific Drift Gillnet and Longline Fisheries Biologist and Federal Observer.
- Conducted tissue and organ collection for Southwest Fisheries Science Center in San Diego.
- Performed catch tally information on different fish and mammal species.

10/2004 to 05/2006

CIVIL ENGINEER

Tait & Associates Inc. Santa Ana, CA, & DRC Inc – Anaheim, CA

- Designed construction plans for finish grades of soil, curb lines, floors, and topographical surveys.
- Installation and operation of surveying equipment (levels, laser and mirror sighting and placement).

01/2001 to 06/2002

LAND SURVEYOR

CSU Monterey Bay – Monterey Bay, CA

- Used handheld GPS units and GIS to map topography to create complete comprehensive trail guide on former Fort Ord military base in California for hikers and cyclists.
- Surveyed site by defining lines and grades, topography, underground facilities, cut and fill.
- Verified location by establishing positions and property boundaries.
- Assisted survey crew chief by providing maps, calculations, documentation, and illustrations.

- Provided reference information by developing and maintaining survey databases and data entry.

05/1999 to 01/2001 **SOILS ENGINEER**

So. Cal. Geotechnical — Anaheim, CA

- Worked as a soils tester on construction sites.
- Determined moisture and materials content for soil compaction tests.

EDUCATION

2004 **Bachelor of Arts**: Archaeology

CALIFORNIA STATE UNIVERSITY MONTEREY — Seaside, CA, US

AFFILIATIONS

Surfrider Foundation

SKILLS

Certification and experience in Arc GIS and GPS. Data entry, databases, documentation, research, geographical surveys.

Heather Colley, US Citizen
824 Denise Lane, El Cajon, CA, 92020 (619)-760-6092 hcolley@hotmail.com

Objective

To obtain a position as a marine biologist, assisting with the collection, processing, and integration of research data collected in the marine environment

Education

B.S. Environmental Systems: Ecology, Behavior and Evolution; Emphasis on Marine Biology
University of California, San Diego *June 2013*

Skills/Competencies

- Prior experience aboard NOAA Ship Reuben Lasker and NOAA Ship David Starr Jordan
- Reliable and accurate data collector, proven in field and at sea as a Fisheries Observer aboard commercial fishing vessels
- Proficient in WinCruise; experienced with other oceanographic, acoustic, and bathymetric equipment
- Previous experience using CTD equipment, marine acoustic monitoring equipment, performing bongo tows, and visual marine mammal watches aboard NOAA vessels
- Ability to live and work comfortably at sea, proven in rough weather for extended, multiple week and month long cruises, maintaining composure during difficult conditions
- Extensive knowledge of cetacean taxonomy, able to identify Pacific cetaceans by sight
- Proven and thorough animal trainer, exceptional comprehension of animal behavior, communication and husbandry
- Extremely strong writing skills (technically/grammatically), compelling public speaker
- Bilingual; educated in Spanish for eight years
- Excellent interpersonal skills; successful teamwork abilities, open communicator
- Flexible, reliable, independent hard-worker with high work ethic, easily adaptable to fluctuations in responsibilities/work environment
- **Total time at sea: 310 days**

Work Experience

Frank Orth and Associates
Fisheries Observer *September 2013-January 2017*

-Independently dissected and performed full necropsies at sea on various large shark species, cetaceans and pinnipeds during extended, multiple week trips to sea
-Collected biopsies, organ samples and life history data on many specimens successfully aboard commercial fishing vessels
-Performed extended marine mammal watches aboard commercial drift-net fishing vessels

NOAA's Southwest Fishery Science Center- Protected Resource Division
Volunteer at-Sea Marine Mammal Observer *CLAWS Arctic Large Whale Survey*
NOAA Ship Reuben Lasker, July 2015-August 2015

-Stood for marine mammal watches on the flying bridge multiple times daily
- Worked in the small boat during close approaches to large cetaceans for biopsy operation and individual identification
-Completed biopsy analysis for genetic samples of various large cetaceans

NOAA's Southwest Fishery Science Center- Fishery Resource Division
Volunteer at-Sea Science Technician *CalCOFI Spring and Summer Cruises*
NOAA Ship David Starr Jordan, April 2014-August 2014

-Performed nightly population assessment trawls, CTD scans, bongo tows aimed to determine sardine/anchovy presence off coastal CA
-Sexed and assessed maturity levels of various fish species
-Identified various invertebrates and fish specimens brought up in trawl

NOAA's Southwest Fishery Science Center- Protected Resource Division
Volunteer Marine Mammal Observer *Eastern North Pacific Grey Whale Stock Assessment*
May 2013, 2014, 2015, 2016

-Performed daily watches closely monitoring the grey whale migration

-Assessed and determined sex, group size, and maturity of all northbound whales
-Quickly and efficiently collected data in field

NOAA's Southwest Fishery Science Center- Protected Resource Division
Internship *September 2011-Present*
- Fully dissected various species of cetaceans and pinnipeds during necropsy assistance
- Independently completed analyses of stomach content for diet assessment of large Southern California Bight predators
- Sampled liver, kidney, blubber, gonads, and skin tissue for chemical analysis of frozen and fresh samples
- Curated teeth and created a digital database for inventorying teeth

Heather's House and Pet Sitting
Pet Sitter *June 2005-Present*
- Independently cultivated thriving personal business with large clientele base and 100% return client rate
- Developed strong management, organizational and financial skills, leading to positive customer relations
- Superior full-time care and maintenance of groups of pets over extended periods
- Innate sense of individual animal needs, able to respond and successfully implement affirming training techniques

Care and Comfort Veterinary Hospital
Veterinary Technician's Assistant *September 2005-December 2009*
- Prepared daily medications for in-house patients, including proper calculation of anesthetic dosages for upcoming surgeries
- Collected blood, fecal and urine samples, performed in-house lab work, and analyzed microscope slides of samples to provide accurate diagnosis
- Sterilized and prepared both surgical suite and patient for surgery, observed and assisted with invasive operations
- Cleaned facilities and enclosures daily, including cages, litter boxes and large animal runs

Large Animal Veterinary Associates Hospital
Large Animal Volunteer *January 2006- January 2007*
- Administered vaccines (large animals)
- Assisted with livestock house call procedures, such as abscess removal, dental work, and injury assessment
- Stabilized weight of large animals during on-site surgical procedures

Care and Comfort Veterinary Hospital
Small Animal/Exotics Volunteer *June 2003-September 2005*
- Performed administrative work, including filing, data entry, phone handling and customer service
- Executed basic procedures, such as dental cleanings, vaccinations (small animals), cast settings, foxtail removal and ear cleanings
- Presented and explained fiscal estimates of veterinary procedures to clients

Achievements and Involvement

Dance Mentor with the City of El Cajon Recreation Department *March 2003-April 2008*
Member of UCSD's Competitive Dance Team *September 2008- January 2013*

References

Wayne Perryman, Leader of Marine Mammal and Turtle Divison, Cetacean Health and Life History Program; 858-546-7014

Annette Henry, Sea-going Biologist and Fishery Biologist; (858) 546-5672

Antonella Preti, Research Fisheries Biologist; (858) 546-5640

Tyler Jack

410 W Islay St • Santa Barbara, CA 93101
Phone: (408) 482-4479 • E-Mail: 42tjack@gmail.com

Education

M.S. Biology **July 2012**

University of California San Diego (UCSD), GPA: 4.0

B.S. Ecology, Behavior and Evolution **Sept. 2010**

University of California San Diego (UCSD), GPA: 3.5

Experience

Frank Orth & Associates, a contractor for National Marine Fisheries Service (Long Beach, CA)
Fisheries Observer **Aug. 2013 – Present**

Collected data aboard longline and driftnet fishing vessels off the coast of California and Mexico. Sampled catches for species composition, including the incidence of federal and state-listed sensitive species. Collected biological information such as size frequencies and sex ratios. Dissected and extracted biological samples from various species of fish, shark, and marine mammals. Assembled and synthesized data pertaining to biological issues addressed in conservation management legislation such as the MMPA. Responsible for data entry, transmission, and management.

U.S. Fish and Wildlife Service (Vancouver, WA)
Biological Science Technician **Feb.2013 – June 2013**

Worked in accordance with state, tribal, and other federal agencies to restore anadromous fish populations in the Columbia River Basin impacted by the development and operation of the Columbia River hydropower system and by other human activities. Conducted field investigations for habitat analysis. Worked on species and habitat restoration projects. Operated electrofishing equipment, seine and nets to conduct stream and fish surveys. Identified, measured, and PIT-tagged salmonids. Performed redd counts for federal and state listed sensitive species. Used kick net sampling techniques to collect benthic macroinvertebrates from river and stream habitats. Used microscopes and dichotomous keys to sort and identify aquatic invertebrates to class, order, and family for all specimens including larval and nymph stages. Assisted in conducting marking/tagging operations at field locations including State and Federal hatcheries. Performed bio sampling of returning adult fish and analyzed scales for age determination. Assisted in running and maintaining automated marking and tagging trailers. Utilized technical equipment such as GPS units, electrofishers, microscopes, tag detection equipment, data loggers, electronic data collectors, water quality sampling and survey equipment to conduct field surveys. Performed the majority of field work in remote locations only accessible by backpacking.

TechSea International, a contractor for National Marine Fisheries Service (Seattle, WA)
Fisheries Observer **Feb.2013 – June 2013**

Worked aboard longline, crabber, and trawler fishing vessels out of Alaska collecting scientific data for the purpose of in-season management and to establish future fishing quotas for the Alaskan groundfish and crab fishery. Assisted the company American Seafoods with adjusting their fishing practices to comply with state and federal legislation. Monitored for seabird, turtle, and marine mammal interactions under the Marine Mammal

Protection Act and Endangered Species Act. Processed biological samples recording weight, size, Page2 sex, and maturity of multiple species of fish and invertebrates. Worked odd-hours, on deck, in adverse and inclement weather conditions.

El Colegio del Frontura Sur, (Tapachula, Mexico)
Research Assistant **Aug. 2012 – Nov. 2012**

Primary investigator, researching the cleptoparasitic behavior of the stingless bee Lestrimelitta Niitkib. Developed the study's methods and protocol. Conducted field research, performed data entry and analysis. Trained and led field crews.

Masters of Biology Thesis, UC San Diego **June 2010 – July 2012**

Created multiple novel protocols and experiments. Trained and managed 19 volunteers who assisted with trials. Published as a primary author in the scientific journal *Animal Behavior* after compiling, interpreting, and analyzing data. Presented and discussed scientific findings to multiple types of audiences.

Graduate Teaching Assistant, UC San Diego **Sep. 2011 – July 2012**

Ecology Lab where I assisted students with surveying techniques as well as developing ecological experiments. For the course Animal Behavior and Communication, I developed lesson plans and lectured two hours a week for 56 students. Organized and managed 9 other teaching assistants.

Volunteer Research Assistant, UC San Diego **Jan. 2010 – June 2010**

Performed both field and lab experiments under the supervision of the primary investigator.

Publications

Animal Behaviour **October 23, 2015**

Honey bees tune excitatory and inhibitory recruitment signaling to resource value and predation risk

Certifications

CPR/First Aid/AED

ATTACHMENT H

OIL SPILL CONTINGENCY PLAN

COASTAL

FRONTIERS

OIL SPILL CONTINGENCY PLAN DURING GEOPHYSICAL SURVEYS

Prepared for
California State Lands Commission

Prepared by
Coastal Frontiers Corporation

November 2017

OIL SPILL CONTINGENCY PLAN
DURING GEOPHYSICAL SURVEYS

Coastal Frontiers Corporation
November 8, 2017

1. Introduction

This Oil Spill Contingency Plan (OSCP) has been prepared as a general guide for geophysical marine survey operations conducted by Coastal Frontiers Corporation under California State Lands Commission permit PRC 9404. The work will be conducted from survey vessels operating within ports, marinas, and the coastal waters of California. The purpose of this OSCP is to present the procedures and protocols that will be utilized in the event of an oil (fuel) spill resulting from survey vessel operations.

2. Spill Definition – Minor and Major

For purposes of this OSCP, a minor spill is defined as 5 barrels or less and a major spill is defined as more than 5 barrels.

3. Potential Spill Sources

Potential spill sources of hydrocarbons are limited to fueling operations, leakage or spillage of fuel or lubricants from the survey vessel or equipment operating on the vessel deck during mooring, survey operations, and transit to the offshore working grounds.

3.1 Marine Equipment Sources

Unspecified survey vessel(s) will be used to support the marine survey operations. The vessel will contain fuel or lubrication fluids in integral tankage built into the vessel's hulls. While all vessels are considered potential spill sources, the likelihood of a spill is maximized during fueling operations. During fueling, all connections will be monitored for leaks. Particular care must be taken when hoses are disconnected. Containment and sorbent pads will be placed appropriately in order to capture any drips or leaks. Fueling will require at least two individuals: one at each end of the hose to monitor the transfer continuously. Fueling will cease if any fuel leaks are seen. Vessel fueling shall only occur at an approved docking facility or land-based location. No cross vessel fueling shall be allowed (see General Permit Exhibit H, MM HAZ-2).

Other major losses of fuel from a vessel would be considered remote because a spill could only occur if the hull of a vessel is breached in the area of the tankage, or if the vessel sinks. Under such catastrophic circumstances, radio communications will be initiated immediately to request assistance from the U.S. Coast Guard and nearby vessels.

Another marine equipment source of hydrocarbon spillage at the site may be leakage or spillage of fuel or lubricants from the deck equipment used to support the marine operations. Specifically, equipment items aboard the survey vessels (e.g., compressors, generators, pumps, welding machines, etc.) have small-size, dedicated tanks containing fuel. To prevent such spillage, all deck equipment will be equipped with drip pans to contain fuel spillage or equipment leakage. Marine work crews will be directed to monitor the deck equipment for leakage and if observed, will cease equipment operation and correct any leakage that might occur. All hydrocarbon-based fluids stored onboard the work vessels will also be required to have a double containment system. All equipment or fuel storage containers will be adequately secured to the deck prior to leaving the dock.

4. Oil Spill Response Team

Prior to the launching of the vessel for any activities, all captain and crew members on the vessel will have read the Oil Spill Contingency Plan, understand procedures to be implemented in the event of an oil spill, and know where the oil spill kit is located on the vessel. The vessel crew and survey team will address prevention and clean-up of minor spills during survey operations. This onsite response team is responsible for reporting, containment, and clean up of any small spills using onsite equipment and procedures. The onsite team will be supervised by the survey vessel master and will consist of any and all personnel working on the vessel at the time of the spill.

Prior to beginning operations each day, an HSE (Health Safety Environment) meeting will be held on the vessel. All individuals aboard the vessel will be required to participate. Topics of each daily meeting will include the planned survey activities, vessel safety, spill prevention and response actions and plans, potential hazards and mitigation measures.

The OSCP will be presented to everyone on the vessel prior to commencing operations. The OSCP will be prominently displayed on the bridge of the vessel. Important emergency contact information (Table 1) for those agencies requiring notification in case of a marine spill will be provided. Procedural checklists (Table 2) will also be available.

5. Onsite Response Equipment

Permittee typically contracts a vessel and operator to support data collection efforts. The vessel utilized depends on survey location, scope and availability. The vessel captain shall be responsible for making sure the appropriate spill response equipment is onboard prior to launching of the vessel for any activities. The Coastal Frontiers Project Representative shall verify that the appropriate equipment is onboard. The onsite spill response team will have access to an appropriate quantity of sorbent pads and disposal bags for small spill clean-up. Clean-up will

commence immediately once the spill is identified. Absorbent boom will be aboard the survey vessel.

6. Notification

An important step in the response procedure is notification to others of an incident. Notification is essential to activate the response organizations, alert company management, obtain assistance and cooperation of agencies, mobilize resources, and comply with local, state, and federal regulations. The order of notification is based on the premise that those parties who can render assistance in controlling or minimizing the impacts of an incident should be notified before those that are remote from the incident. The notification process encompasses the following categories:

- Emergency agency notification
- Company notification/onsite spill response team activation
- Cleanup contractors (if required)
- Notification of other interested parties
- Periodic progress updates and reports (if necessary)

Table 1 provides the list of agencies requiring notification.

The Lempert-Keene Seastrand Oil Spill Prevention and Response Act (SB 2040) requires notification of the California Office of Emergency Services when oil spills occur or threaten to occur from facilities, vessels, or pipelines into California marine waters. The California Code of Regulations implementing SB 2040 requires that the specific information shown in Table 2 be given to the agencies when making notifications.

All actions, including agency notification, should be recorded on the Vessel Log. A regulatory agency address directory is provided in Table 3.

Essential agency notifications are further assured by the California Office of Emergency Services and the National Response Center, since they will notify related state and federal agencies. If a spill impacts navigable waters, notification of the National Response Center is mandatory and normally results in simultaneous notification of the U.S. Coast Guard. However, it is recommended that a call be made to the local U.S. Coast Guard office as listed in Table 1.

Based on the spill trajectory analysis, if the spill is a threat to the shoreline, the appropriate fire department should also be contacted. This would not normally be an immediate notification.

7. Company Notification

Coastal Frontiers requires that all emergencies be brought to the attention of its management. The Coastal Frontiers representative onboard the survey vessel will notify by radio or telephone the appropriate Coastal Frontiers management with an initial assessment of the extent and nature of the spill, and will activate additional company resources if necessary.

Coastal Frontiers Management

Name	Office	Home	Cell
Craig B. Leidersdorf	818-341-8133	805-496-1287	805-750-8133
Greg E. Hearon	818-341-8133	805-493-4828	805-796-1209

8. Marine Spill Scenarios and Response Procedures

8.1 Minor Marine Spills

This scenario consists of minor spillage of oil or oily water (less than 5 barrels) from a marine support vessel or deck equipment. Response will consist of deployment of an absorbent boom and sorbent pads that are stored on the survey vessel. Table 4 lists the response procedures for a minor marine spill.

8.2 Major Marine Spills

For purposes of this OSCP, a major spill is defined as any spill greater than 5 barrels. There are no realistic spill sources on the survey vessel capable of yielding a major spill, with the exception of the fuel tanks of the vessel. Loss of large volumes of fuel to the sea would only occur in the case of a vessel grounding or collision with another ship or structure. Under these extreme conditions, an emergency call to the U.S. Coast Guard would be initiated via marine radio. The response to such a catastrophic event would not likely be capably performed by the vessel crew alone and outside assistance would be requested.

Table 1. Emergency Agency Notification Matrix

Type of Emergency	Agencies to be Notified	Telephone	Notification Criteria	Notification Time Frame	Information to Report
Oil Spill to Land or Marine Waters	California Office of Emergency Services	(800) 852-7550	All spills to land or water	Immediately	1. Location of release or threatened release 2. Qty released 3. Type of oil 4. Your name & phone number
	National Response Center	(800) 424-8802			
	U.S. Coast Guard Marine Safety San Diego Los Angeles/Long Beach Channel Islands Ventura Santa Barbara Morro Bay Monterey San Francisco Bodega Bay Humboldt	 (619) 683-6500 (800) 221-8724 (805) 985-9822 (805) 985-9823 (805) 962-7430 (805) 772-2167 (831) 647-7300 (415) 399-3300 (707) 875-3596 (707) 839-6123			
	State Lands Commission	(562) 499-6312			
	California Department of Fish and Game/ OSPR	(888) 334-2258			
	California Coastal Commission	Ellen Faurot-Daniels, (415) 904-5285 (work) (415) 201-5792 (pager).			
	Oiled Wildlife Care Network	(530) 754-9035			
	Minerals Management Service	(805) 389-7775 or (805) 389-7550	Spill entering federal waters only		
Medical Emergencies	Fire Department/ Ambulance	**911**	Medical assistance and/or transport required	ASAP	1. Type of injury 2. Location 3. Condition 4. Action taken 5. No. of victims
	CalOSHA	(415) 737-2932		As required	

Table 2. Information Checklist

Name of reporter.
Facility name and location
Date and time of the spill
Cause (if known -- don't speculate) and location of the spill
Estimate of the volume of oil spilled and the volume at immediate risk of spillage
Material spilled (e.g., crude oil), and any inhalation hazards or explosive vapor hazards, if known
Prevailing sea conditions: • Wave height • Size and appearance of slick • Direction of slick movement • Speed of movement, if known
Prevailing weather conditions: • Wind speed • Wind direction • Air temperature
Measures taken or planned by personnel on scene • For containment • For cleanup
Current condition of the facility
Any casualties?
NOTE: When making reports, record the agency, name of person contacted, and the date and time of notification. Reporting of a spill shall NOT be delayed solely to gather all the information noted above.

Table 3. Addresses of Regulatory Agencies

NATIONAL RESPONSE CENTER U.S. Coast Guard Headquarters 2100 Second Street SW Washington, D.C. 20593	**CALIFORNIA DEPARTMENT OF FISH AND GAME** **Office of Spill Prevention and Response (OSPR)** 1730 I Street PO Box 944209 Sacramento, CA 94244
MINERALS MANAGEMENT SERVICE Pacific OCS Regional Office & Camarillo District Office 770 Paseo Camarillo Camarillo, CA 93010	**CALIFORNIA OFFICE OF EMERGENCY SERVICES** 2800 Meadowview Road Sacramento, CA 95832
U.S. COAST GUARD Marine Safety Office 2716 N. Harbor Drive San Diego, CA 92101-1028	**CALIFORNIA DIVISION OF SAFETY AND HEALTH** 1655 Mesa Verde Avenue, Room 150 Ventura, CA 93003
U.S. DEPARTMENT OF TRANSPORTATION 111 Grand Avenue, P.O. Box 23660 Oakland, CA 94623	**CALIFORNIA STATE LANDS COMMISSION** 330 Golden Shore, Suite 210 Long Beach, CA 90802
NATIONAL MARINE FISHERIES SERVICE 650 Capital Mall Sacramento, CA 95814	**CALIFORNIA COASTAL COMMISSION** 45 Fremont, Suite 2000 San Francisco, CA 94105-2219

Table 4. Minor Marine Oil Spill Response Procedures

Responsible Person	Action
Vessel Master (Primary) Coastal Frontiers Project Representative	• Assess the spill size and type of material spilled. • Take action to contain the spill and prevent further spillage. • Inform the Project Superintendent as soon as possible as to the source of the spill, type of material spilled and status of control operations. • Maintain surveillance of source and oil slick. • Assist the onsite response team in implementing clean up procedures including deployment of the absorbent and/or containment boom and sorbent pads and proper storage and disposal of oily debris and sorbent pads. • Account for all personnel and ensure their safety. • Determine if there is a threat of fire or explosion. • If a threat of fire or explosion exists, suspend all control and/or response operations until the threat is eliminated. • Assess the spill situation to determine the status of response operations, estimate spill volume, estimate speed and direction of oil slick movement and determine resource needs. • Notify the Project Manager. • Mobilize the onsite oil spill response team. • Notify appropriate agencies including: – National Response Center (800) 424-8802 – California Office of Emergency Services (800) 852-7550 – State Lands Commission (562) 499-6312 – California Department of Fish and Game/OSPR (916) 445-0045 – U.S. Coast Guard Marine Safety Office (510) 437-2943 – Oil Wildlife Care Network (530) 754-9035 • Supervise response and clean up operations. • File written reports to appropriate agencies.

EMERGENCY AGENCY NOTIFICATIONS

Type of Emergency	Agencies to be Notified	Telephone	Notification Criteria	Notification Time Frame	Information to Report
Oil Spill	California Office of Emergency Services	(800) 852-7550	All spills to land or water	Immediately	1. Location of release or threatened release 2. Qty released 3. Type of oil 4. Your name & phone number
	National Response Center	(800) 424-8802			
	USCG Marine Safety San Diego Los Angeles/Long Beach Channel Islands Ventura Santa Barbara	 (619) 683-6500 (800) 221-8724 (805) 985-9822 (805) 985-9823 (805) 962-7430			
	State Lands Commission	(562) 499-6312			
	Cal Fish and Game/ OSPR	(888) 334-2258			
	California Coastal Commission	Ellen Faurot-Daniels, (415) 904-5285 (work) (415) 201-5792 (pager)			
	Oiled Wildlife Care Network	(530) 754-9035			
	Minerals Management Service	(805) 389-7775,(805) 389-7550	Spill entering federal waters only		
Medical Emergencies	Fire Department/ Ambulance Cal OSHA	**911** (415) 737-2932	Medical assistance and/or transport required	ASAP As required	1. Type of injury 2. Location 3. Condition 4. Action taken 5. No. of victims